BIBLIOGRAPHICAL NOTICES.

ART. XII.—*Transactions of the Medical Society of the State of New York, at its Semi-Annual Meeting, held in June,* 1852, *at the City of New York; and at its Annual Meeting in the City of Albany, held February,* 1853. Albany, 1853: 8vo. pp. 352.

Transactions of the Kentucky State Medical Society, at their Meeting, held in Louisville on the Third Wednesday of October, 1852. Louisville, 1853: 8vo. pp. 333.

Transactions of the Medical Association of Southern Central New York, at the Annual Meeting, held at Owego, June, 1852. Auburn, 1852; 8vo. pp. 94.

The Transactions of the Illinois State Medical Society, for the Year 1852. Peoria, 1852: 8vo. pp. 94.

The Transactions of the Medical Association of the State of Missouri, at its Second Annual Meeting, St. Louis, April 19, 20, *and* 21, 1852. St. Louis, 1852: 8vo. pp. 116.

Proceedings of the Third Annual Meeting of the Indiana State Medical Society, held in the City of New Albany, May, 1852. New Albany, 1852: 8vo. pp. 79.

Transactions of the Twenty-Ninth Annual Meeting of the Medical Society of Virginia, &c. Richmond, 1852: 8vo. pp. 62.

Transactions of the Medical Society of the State of North Carolina, at its Third Annual Meeting in Wilmington, N. C., May, 1852. Wilmington, 1852: 8vo. pp. 98.

The Transactions of the Third Annual Meeting of the Medical Society of the State of Georgia, held in the City of Augusta, April, 1852. Penfield, 1852: 8vo. pp. 100.

Proceedings of the Medical Association of the State of Alabama, at its Sixth Annual Session, begun and held in the City of Selma, December 13–15, 1852. Mobile, 1853: 8vo. pp. 166.

THE numerous volumes, comprising the *Transactions* of various State Medical Societies, which have been published within the last few years, may with propriety be assumed as an evidence of the beneficial influence exerted upon the profession throughout the greater portion of the Union by the American Medical Association. Through its earnest and repeated recommendation, most of the recently formed State medical organizations have been brought into existence; while not a few of those of older date have by its influence been roused to renewed activity, and in a direction better calculated to elevate the standard of the medical profession, and to enlist all its members in the investigation of the nature, causes, prevention, and cure of disease, and in the communication of the results of this investigation for the general good.

We confess that we have never had any very sanguine hope that the American Medical Association, viewed in the light of a mere legislative body, would be able to effect all the reforms desired in our profession; inasmuch as it has neither power nor influence sufficient to *exact* a general obedience to the laws it may enact to regulate the terms of admission into the profession, and control the conduct of those who assume its duties and responsibilities. We nevertheless believe that the Association has already exerted a powerful agency for the benefit of our profession, and that in time it will be able to accomplish all the good that could reasonably have been anticipated from it by its projectors. In the accomplishment of its ultimate objects, one of the most certain means within its scope is the regular organization it is gradually effecting of the legitimate members of the profession throughout every section of the country. By such an organization, having one common interest in view, and in its accomplishment presenting a unity of feeling and of action, many desirable reforms in medical education may be obtained, and the provisions of a judicious code of professional ethics rigorously enforced.

It is not our intention to enter into a detailed examination of the respective contents of the several volumes of *Transactions* indicated at the head of the present notice. To do justice to the more prominent of the papers embraced in them would occupy more space than we can at present conveniently spare. We refrain also from offering any opinion as to the comparative value of the *Transactions* of the different Societies. They all present useful contributions to the general fund of medical truth. If we cannot always coincide with the deductions drawn from the facts and observations recorded in the volumes before us, we, nevertheless, are thankful for the facts and observations themselves, whether they are to be viewed as mere confirmations of those already in our possession, or as throwing new light upon certain points connected with the etiology, the pathology, or the therapeutics of the maladies incident to the different sections of the United States.

Each volume of *Transactions* contains an Address from the President of the Society, delivered either at the opening or closing of its annual session. These addresses are marked throughout by good sense, and by the correct views they express in relation to the importance and difficulties of our profession, and the necessity there is that those who would assume its duties and responsibilities should possess the proper intellectual and moral qualifications. A sufficient preliminary and thorough professional education is insisted upon; while they nearly all concur in opinion as to the insufficiency of the present system of medical instruction in this country, and the imperative demand for some restriction to the facilities which now exist for obtaining the degree of doctor in medicine by persons altogether unfit to be safely intrusted, as practitioners, with the health and lives of their fellow-creatures.

In several of these addresses, the impositions of quackery, and the folly and delusion of its followers and advocates are dwelt upon at some length. While we hold it to be the duty of the physician to endeavour, by every means within his power, to enlighten the public mind upon this subject, we at the same time fear that, by introducing it too prominently into the discourses which are intended expressly for the members of strictly professional Societies, we lower, in some degree, our own dignity, and augment the importance of the legion of quacks that infest our land.

The character of the matter embraced in the several volumes of *Transactions* now before us varies considerably. In some, we have reports on the several branches of medical science, or on subjects of interest to the profession as a body; in others, papers on special diseases, or on some point of interest embraced within the domains of surgery or obstetrics; the details of cases or of surgical operations; and, finally, reports upon the vital statistics, medical topography, and prevailing epidemic or endemic diseases of particular sections of country. The whole forming a mass of matter rich in materials adapted to improve our acquaintance with disease, and to increase our skill, according as this may be directed to its prevention or removal.

The study of the diseases of each locality in immediate connection with its medical topography, and the character and pursuits of its inhabitants, is perhaps one of the best means of arriving at correct views in relation to the etiology of disease, and the modifications that it may undergo from the agency of causes of a special or local character. It is desirable, therefore, that every encouragement should be given to the preparation, by the several county and district Societies, annually, of medico-topographical reports of the several portions of country embraced within their boundaries. In Pennsylvania, a partial attempt has been made to investigate the relationship of diseases to the prevailing geological formation of each locality. From the few facts already collected, it is impossible to determine what may be the results of the inquiry when a more extended and continued series of observations shall have been made throughout every portion of the State, so that we shall have the means of comparing the diseases of the different geological regions with each other, for a number of successive years. The investigation is in every point of view an interesting one, and well worthy of the attention of the several County and State Societies that are now in existence or may hereafter be organized.

A somewhat striking peculiarity in the several volumes of *Transactions* before us is the predominance of reports, papers, and histories of cases, of a strictly surgical character, over those in the other branches of the healing art. Surgery, we are aware, has been cultivated with great success in our country; but why it should so exclusively have occupied the attention of our several State Medical Societies it is difficult to understand. In many particulars, surgical pathology unquestionably claims a more close, thorough, and cautious investigation than it has yet received, and presents a field in which those qualified for its culture may reap a rich harvest. In the volumes before us, it is chiefly, however, to the remedial and mechanical department of surgery that attention is directed.

The main objects of County and State Medical Societies should be to cultivate a friendly intercourse between all the members of the profession located in the same neighbourhoods, founded on a strict observance of the recognized code of medical ethics; to discourage and discountenance the entrance upon a medical pupilage of those who are unqualified by the want of capacity and preliminary education, and *moral* character; and to aid, by every means within their power, in the establishment of a full and efficient system of medical instruction and examination, as an essential preliminary to admission to the doctorate. By these means, they will be instrumental in elevating the character of the regular physician in the estimation of the public, and of subserving, in the most effectual manner, the individual interests of their members, while at the same time they promote the best interests of the profession throughout the country. County and State Medical Societies may also be made powerful instruments for the development and propagation of medical truth, by directing the minds of their members to a cultivation of the opportunities afforded to each for the investigation of the causes, phenomena, and progress of disease, and the effects of remedial agents in controlling its violence and arresting its course; by the collection and proper arrangement of the results of the observations of each, and by presenting them as a contribution to the general fund of medical knowledge.

Hence, in the published *Transactions* of these Societies, reports and papers on the subject of medical ethics, medical education, the registration of births, marriages, and deaths, vital statistics, public and private hygiene, and similar topics, may with propriety be admitted, in common with reports and communications on the medical topography and diseases of different localities; on the pathology and treatment of particular forms of disease; on the curative properties of certain articles of the *materia medica*, or of our indigenous plants, founded upon personal observation; but no communication of a purely hypothetical or controversial character should be allowed to appear. In the medical journals, essays to prove by argument the existence of miasma as the cause of fever; theoretical disquisitions on the changeability or unity of disease; and hypothetical views as to the cause of life and vital heat, may find a fitting place, but from the *Transactions* of our State and County Societies they should be altogether excluded. These *Transactions* must be confined strictly to a record of facts and accurate observations, with such general conclusions as the reporters may believe to be legitimately deduced from them, or their value will be materially impaired.

We had not intended to notice particularly any of the reports or communications contained in the several volumes whose titles we have placed at the head of this article, but merely, in general terms, to recommend the *Transactions* to the attention of such of our readers as may not have met with them, as an indication of the extent to which the organization of the medical profession of our country has been effected, and as an evidence of the healthful fruits to which that organization has already given rise. We have, however, been so much pleased with the good sense which distinguishes the report of the Committee on Medical Ethics of the Kentucky State Medical Society, the excellence of the remarks contained in it, and the plain but clear manner in which these are expressed, that we must be permitted to present one or two extracts from it.

Of the Duties of the Public to the Profession, the report speaks as follows:—

"While physicians owe so many obligations to the public, to their patients, and to each other, the public and their patients have duties to perform towards them, which they cannot rightfully shrink from performing any more than can physicians from fulfilling theirs. If the physician must be ever ready to do offices of kindness and beneficence, if the public censure him, and have the right to censure him for not doing them, the public, on the other hand, should uniformly yield him that consideration and respect which the constant discharge of his important duties justly demands. They should not, as is so often done, through thoughtlessness or malice, throw impediments in the way of his usefulness, by sneers and ill-natured remarks; but should aid him in his endeavours to promote the welfare of communities, and to restore the health of his patients.

"A notable instance of opposition to this sentiment is seen in the statutes of most States. The law demands of the physician and surgeon that they shall bring to the treatment of every case submitted to their care, the greatest amount of skill and knowledge; and at the same time denounces with severe penalties the only method by which this knowledge and skill may be obtained.

"It often happens, if the physician steps forth from the performance of his accustomed daily duties to speak warningly to the people of the imminence of an epidemic, or to assure them that in its slighter forms it is already upon them, that he is assailed as a timid alarmist; his motives are maligned, and his standing, for a time, at least, is lowered, from the fear that his publication may hurt the business, or retard the growth of the place! Such treatment is surely reprehensible; such a people scarcely deserve to be warned of danger.

"The same disingenuous, ignorant, and persecuting spirit often pursues the physician when he is engaged in the treatment of a case of disease. The patient, while in full health and in the enjoyment of all his powers of judgment, has, perhaps, chosen his medical attendant; after he has been prostrated by sickness, and has become peevish and fretful towards those most dear to him, busybodies and intermeddlers frequently interpose and urge him to discharge his preferred adviser, and to choose some other. This is unjust to the physician and hurtful to the patient. His mind, enfeebled and anxious, is totally unfitted to make a selection, were it necessary; his hope and confidence in his physician, so salutary as a means of restoration, are broken; he is put upon the rack of doubt and fear; and the urgency and peril of his case are often greatly augmented by this play upon his imagination. This intermeddling sometimes springs from motives of unquestionable kindness towards the sick, but it is a kindness which sometimes kills. Its injustice to the physician is palpable and needs no comment.

"We have known a weak and nervous patient, a lady, harassed and worn down to tears, and almost to convulsions, by debating with her whether her medical attendant, her own and her husband's unbiased choice, should not be dismissed; the gravity of her case was exaggerated to her; the opinions of her physician misquoted and perverted; her husband, distressed and fearful about her, was reduced to the torments of doubt and hesitation; and all this was done to foist into favour the wonders of homœopathy, which, in the presence of such a case, is as useless as sounding brass. Decisive interposition by the attendant physician rescued the poor sufferer from the eager debates of over-zealous friends; encouragement was offered, and confidence and hope were again restored, and took the place of doubt and despair, which, had the bad counsels of irresponsible and presuming friends obtained, would speedily have terminated in death. Similar examples are of frequent occurrence, and the people should be informed of the hurtfulness, injustice, and immorality of such conduct. We hope to see the day when this kind of interference will be rebuked by physicians and people like any other impertinence, and be, indeed, considered indecent and scandalous.

"The opposition made to the physician, especially in cases of great danger and complexity, harasses his mind, wearies his temper, and often causes him to miss the truth he so anxiously desires to seize, and which, once gained, would safely guide him through the mazes and intricacies of the disease.

"The intermeddling zeal with which physicians are beset by the friends and visitors of the sick to try this or that favourite remedy of theirs, is another mode of insult and injury to them and their patients. The medical attendant should be left to the free exercise of his own judgment and skill, and knowledge of the case, and not be worried by gratuitous and silly advice. If additional counsel be deemed requisite, let another physician be called to consult with the attendant.

"The unwarrantable liberty taken with the reputation and opinions of physicians, by those utterly incompetent to form correct notions of medical subjects is another form in which the people exhibit their want of respect for the profession. The character of a medical man is often assailed and traduced by the partisans of another, that their favourite may, by contrast, be exalted. Gratitude to the physician who has rendered important medical service to a family, or to an individual, is a praiseworthy feeling, and we are pleased to know that it is not uncommon. This sentiment, in part, at least, frequently causes the contrasts which are drawn between physicians. But gratitude may be felt to one without making it necessary to stigmatize and undervalue another. The friends of the latter feel a like gratitude towards him. Debate and misrepresentation about the comparative merits of the two, are almost sure to result; and much of the unkindness and bickering in the profession are thus brought about by those who do not belong to it.

"Another violation of duty to the profession is the prescribing for the sick by non-medical persons—even after the employment of a regular medical adviser. The common habit with some persons out of the profession, of giving advice and medicines in cases which present the appearance of only slight ailment or disorder, and before even the family physician has been called, is one full of mischief. Many cases, of little importance in themselves, have thus been aggravated. Many grave ones are misapprehended; they may exhibit a mildness which is only the gentle breathings of a fierce and smothered storm; the uninstructed eye cannot perceive this. The physician is often appealed to after serious injury has been done by ignorant interference; or after the most precious period for medication and cure has passed away. Nevertheless, all responsibility is cast upon him; and not unfrequently he has to bear the faults of those who have stolen from him the golden opportunity of doing good. But a worst fault, if possible, of these medical amateurs, is that of secretly prescribing while the patient is under the treatment of his physician. It is absurd in the patient to be taking medicines from two different sources at once. Yet it is often done; and it frequently requires much steadiness of purpose and some moral courage to resist the importunities of these self-constituted doctors. They press their doses with so much kindness, make such bold assertions of their infallibility in curing, and, at the same time, give the comfortable assurance that they will, at least, do no harm, that one of infirm purpose will readily yield to the soft blandishments of these good Samaritans. But while this is doing, the plans of the physician are thwarted; the operation of his medicines interfered with; and confidence in him is weakened. Very often the worst injury results. And yet, year after year, the sick subject themselves to learning the useful lesson, that it is best to rely on the physician alone. If anything goes wrong in the case while under these different and often opposite methods of treatment, the intruder is ever on the alert to blame the physician with it. Ask the intermeddler to take the responsibility, as well as the treatment of the patient, and he will draw from it; but as long as his acts are under cover, by reason of the physician's presence and connection with the case, nothing can repress the zeal of his meddling benevolence. Lives have been sacrificed, and the character of medical men are often compromised by this shameful conduct.

"Surely, if the people were properly informed in regard to these matters; if the principles and details of medical ethics were spread among them; if the medical profession would show their firm belief in the wisdom, justice, and propriety of professional ethics; and, above all, if they would, by their daily habits, manners, customs, and conversation, demonstrate these truths, the evils which we have so feebly portrayed might be diminished. Let each of us perform our duty to our patients, to the public, and to our professional brethren, and let us all attempt to teach the public what are *our rights*, and what are *their duties* to us, and good will come of it."

In relation to the practice of rendering professional service for a fixed sum per annum—the same, whether the services be great or small—the report holds the following correct sentiments:—

"This practice, which was formerly countenanced by most Western physicians, has of late years fallen into much disrepute, and deserves to be universally condemned. The gospel, which was given to be preached to the poor as well as the rich, declares of its ministers that 'the labourer is worthy of his hire.' These annual contracts are made with the object of violating this just maxim. The physician is a labourer worthy of his hire; and when he is applied to, to give his aid for this kind of compensation, the intention of the applicant is to obtain it for less than its value; to cheapen and depreciate his services; to invade his right of full compensation for his labour. When the physician accepts such an offer, or takes the initial steps in such bargaining, his object is to put himself beyond the reach of honourable competition. The motive is a low one, beneath the high sense of right which should mark, and has ever marked, the best medical men. It is wrong; it is dishonest for one whose circumstances will permit the contrary, not to offer suitable pecuniary acknowledgments for numerous and important, or even occasional and minor professional services; and the physician who does not claim them under such circumstances, but bars his claim by a contract, a contract made to shield him from his rivals, is guilty of the worst kind of undercharging, degrades himself, and wounds the dignity of his profession.

"The rule which should guide is perfectly plain: whatever professional services are rendered to a family, or an individual, should be fully compensated, as far as circumstances will admit; on the other hand, no right-minded physician will ask pecuniary acknowledgments beyond what his services may justly demand. These contracts, moreover, circumscribe a physician's liberty, if he lives up to them in spirit and letter. They occasion ill feeling, and subject him to the suspicion, on the part of his employers, of neglecting them in their slightest ailments, or tax him with unnecessary visits and attention to them."

"In this connection," remark the authors of the report, "we desire to call attention, with the view to condemn a practice founded upon a mere sordid feeling, which has obtained with a few—we believe and trust only a few: we allude to the acceptance of a percentage from druggists on prescriptions sent to them. This is a most despicable species of unprofessional contract. It clothes the physician's character in the habiliments of avarice—of an avarice which grasps the earnings of the apothecary; or, failing in that, preys upon the necessities and afflictions of the patient and his friends. Whenever the people learn of this nefarious trafficking, the profession sinks in their estimation, often the whole profession, for the guilt of only a few of its members.

"The physician who becomes a pensioner upon his apothecary, and, perhaps, drives him to overcharging the sick, damages his own character, and hurts the reputation of the whole brotherhood.

"We hope that calling the attention of the profession to this outrage upon its ethics will alone be a sufficient remedy for it." D. F. C.

Art. XIII.—*Reports of Institutions for the Insane in the United States.*

1. *Of the Pennsylvania Hospital for the Insane*, for the years 1851 and 1852.
2. *Of the Massachusetts State Lunatic Hospital*, for the years 1851 and 1852.
3. *Of the Bloomingdale Asylum*, for the years 1851 and 1852.
4. *Of the Ohio Lunatic Asylum*, for the year 1851.
5. *Second and Third Biennial Reports of the Illinois State Hospital*, for the years from 1849 to 1852.

Notices of most of the annual reports coming from the establishments devoted to the treatment of the insane in this country, down to the close of the year 1850, have already appeared in our columns. Our file of these documents is not complete to the present time, the superintendents of some of the hospitals having failed to forward them to us. We proceed, however, to review such of them as we are enabled to without overleaping a year, and thus making a hiatus in their history, as represented on our pages.

1. *The Pennsylvania Hospital for the Insane.*—According to the report for 1851, the number of patients admitted into that Institution in the course of the year, was 204

Remaining at the close of 1850	213
Whole number for the year	417
Discharged or died	201
Remaining at the close of 1851	216
Of the patients discharged, they were cured	107
Died	26

Causes of death.—Acute mania 8, acute dementia 1, softening of the brain 5, epilepsy 1, pulmonary consumption 1, dysentery 3, chronic ulceration of throat 1, exhaustion from long refusal of food 1, suicide 1, cancer 1, old age 2.

"Several of the cases of acute mania were undoubtedly injured by the journey to the hospital during the existence of the acute symptoms, which often cannot without difficulty be distinguished from those of inflammation of the brain. While this doubt exists, the patient had better be retained at home, and the probabilities of ultimate recovery are not lessened by such a course."

"The premature removals have this year been rather less frequent than heretofore, and there is reason to believe that the importance of persevering in a course of treatment for insanity is beginning to be more generally understood."

The principal improvements in the establishment during the year, are a new museum and reading-room, additional means to extinguish fire, in case of conflagration, a summer-house in the women's pleasure-grounds, and the substitution of steam for horse-power in supplying water. The new museum is constructed upon the same model as the one previously erected, and the two form a symmetrical feature in the arrangement of the buildings.

"The whole arrangement of the new one is such as to make it an attractive place of resort, especially to the convalescent, and the cultivated, studious patient; to all, indeed, who desire a cheerful and comfortable apartment, where they can quietly read and study, or amuse themselves by inspecting the various objects of interest spread before them. The funds which have been contributed have not only enabled us to put up and finish the building, but also to procure a very fair beginning for a library, and a foundation for a collection of specimens of natural history, minerals, shells, &c., and some pictures and busts. A fine dioptric prismatic lantern and a microscope have also been procured from the same source."

If there be any dwelling inhabited by human beings in which a conflagration is more fearful than in any other, it is, and for very obvious reasons, an establishment for the insane. This evident truth, together with the fact that one of our public asylums was burned but two or three years since, and within the last three months a private one, while on the Continent of Europe, several have been destroyed in a similar manner, should induce all who have the charge of such institutions to see that the means of protecting them from fire are ample and efficient. Hence, the following remarks of Dr. Kirkbride may not be inappropriate in this place.

"Ordinarily, the greatest danger to be apprehended from fire in such establishments, is not so much that the inmates may be burned as from suffocation; and of course their safety consists especially in well-devised plans of prevention, or if that cannot be, of prompt detection, with abundant means always in order, for immediately extinguishing it. To effect these objects properly, the subject should be prominent in the minds of those who originally control the character of the edifice, quite as much as of those who are subsequently to manage it. It would seem to require little argument to prove that all such buildings should be made as nearly fire-proof as circumstances will permit.

If it is not deemed advisable to arch them throughout, other expedients should be adopted to prevent the rapid spread of fire, and to expedite the escape of the inmates. All the stairways should be made of iron or other indestructible material, ample in size and number: the roof should be of metal or slate, and arrangements should be made at different points, by which, if a fire does occur, it can be confined to one section of the building. There should also be a mode provided, by which, if at such a time, smoke should enter the air-chambers below, it could be prevented from rising through the flues in a dangerous amount to the wards above. All such establishments should be warmed by fresh-air passed over steam or hot-water pipes in air-chambers in the cellar, with the boilers placed in a building entirely detached from the main structure, and some distance from it. This mode of heating, carried out in the way suggested, will, of itself, remove the greatest source of accidents from fire in public institutions."

In the report for 1852, it is said that, "notwithstanding the extensive provision for the insane made by the State, at Harrisburg, and which has been available during the year just closed, this Institution has been about full during the whole period, and for much of the time inconveniently crowded, particularly in the wards appropriated to men."

Patients remaining at the close of 1851	216
Admitted in the course of the year	197
Whole number	413
Discharged or died	198
Remaining at the close of 1852	215
Of the patients discharged, there were cured	99
Died	28

Causes of death.—Acute mania 5, pulmonary consumption 6, softening of the brain 6, congestion of the brain 3, exhaustion from long-continued refusal of food 2, sloughing of the perineum 1, suicide 1, convulsions 1, inflammation of intestines 1, chronic ulceration of intestines 1, foreign body entering the trachea 1.

"Five of the cases terminated within ten days of their admission, and these were the fatal cases of acute mania."

Seven of the cases discharged were removed before they had been subjected to treatment sufficiently long to test their curability.

The whole number of cases received since the opening of the Institution, is, of males 1212, females 995, total 2207. Of these, 1049 have been discharged cured, and 230 died.

As the subject is of much importance, no apology is necessary for introducing a considerable portion of the very judicious and just remarks upon bodily restraint, which are found in the report before us.

"No point connected with the treatment of the insane is now more conclusively established than that every such institution *may* be conducted without the use of any mechanical restraint whatever. Whether it is expedient to do so, under all circumstances, is not so well settled. To dispense with restraining apparatus entirely, requires that a hospital should be so constructed as to give all the benefits of the most perfect classification, that it should always have a force of intelligent trained attendants, and abundant means for exercise and occupation in the open air. * * * * It is no advance to give up restraining apparatus and substitute frequent and long-continued seclusion. An individual may really be more comfortable and much better off in the open air, with some mild kind of restraining apparatus in his person, than he would be confined to his chamber without it. * * * * Temporary seclusion to a chamber, however, is a remedy not to be dispensed with, and is really important; but those who control it, should especially endeavour to make the periods of its use as short as possible, and always remember that from the moment it ceases to be useful, it rarely fails to become injurious. The free use of restraining apparatus is unfortunate in its direct effects upon the patients, for it brings about bad habits, and prevents the use of valuable means of treatment. It is, perhaps, still more mischievous, by its bad effects upon the attendants, and all those who have the care and control of the inmates of a hospital. Where restraining apparatus is kept in the wards, and those in them become accustomed to seeing and using it, it soon comes to be regarded as the great resource in times of difficulty and danger, and is liable to make us forget the great importance of what can only be called tact, and the happy influence of gentleness, kindness, and sympathy, which, with occupation, constitute the great moral remedies for all forms of this affection.

"Desirable, or at least convenient as physical strength is, in a hospital for the insane, no one can be long in such an institution without discovering that those who exercise most control over patients, exert the most powerful restraining influences, and are most reliable with the excited, and most judicious in the time of difficulty, are not the individuals who depend upon their strength, whatever it may be, but are often the very persons who physically could render but little service. The gentleness and quiet confidence of a child may, under certain circumstances, effect what the strong man might have to give up in despair.

"Regarding a large and varied supply of restraining apparatus as an undesirable possession for any hospital, and believing the devising of new forms of it an unfortunate use of that ingenuity which should be employed in contriving means for dispensing with it entirely, this hospital has never owned a strait-jacket, a muff, a tranquillizing chair, or any of the still harsher means formerly used, nor of the novel ones more recently recommended. * * * * For the whole period of its existence, the average number using restraining apparatus would not exceed one per cent. of those in the house, and not more than from four to six in temporary seclusion in their chambers, generally for periods of from a few hours to a fraction of an hour. It has frequently happened that for several months together there has been no restraining apparatus used in the Institution. When apparatus is used, it is either in the form of leather wristbands, secured by a belt around the body, soft leather mittens fastened in the same way, a strong dress with the sleeves connected, or the apparatus for confining a patient on his bed."

After remarking that such restraints are sometimes evidently useful, that in certain forms of insanity they may even save the life of the patient, and that the sole direction of the apparatus should lie with the physician, Dr. K. says: "It may not be amiss to refer to the great advantage which is experienced in hospitals for the insane, from doing away, to the utmost possible extent, with even the *appearance* of restraint. This is the true field for the ingenious, and their efforts and contrivances in this way can hardly do harm. It begins in the very choice of a site; it continues in the construction of the buildings, in the arrangement of the wards, in their furniture and fixtures, in the kind and position of the inclosures, and in the conveniences, comforts, and luxuries of the establishment. It consists in making other objects prominent, even where restrictions are intended; in masking, as far as may, the unpleasant part of what is unavoidable, and in bringing out in bold relief before the patients so many objects for agreeable contemplation, and so many modes of occupation, as to leave little time or inclination for dwelling on what is of a less pleasant character."

A "Calisthenium"—a novelty, for females, in establishments for the insane, and therefore worthy of being heralded—containing a bowling-alley, and other means of exercise, has been erected for the women's department of the Institution. It is 60 feet long by 9 in width. In connection with the description of this, Dr. K. makes the following remarks:—

"There is a large class of nervous affections, from the slightest shades of diseased health up to diseases of the gravest character, which are mainly owing to a continued violation of natural laws, few of which can long be trampled on with impunity. Prominent among these laws seem to be those provisions which require that man should make free use of his muscles, and have pure air for the purposes of respiration. . . . . It is unquestionably the great misfortune of many studious men and women, and of others with different sedentary occupations, that their pursuits present almost insuperable obstacles to their using free exercise in the open air, although it may well be doubted whether a few hours thus spent in every day would not, at the end of the year, have enabled them, with less waste of the vital energies, to have accomplished an equal amount of work, and, at the same time, to have laid up a capital of health for future emergencies. . . . . It is desirable that every part of the human body should be harmoniously cultivated; but that which will most tend to keep down an unduly excited nervous system, will unquestionably be found to be a proper development and exercise of the muscular. 'Muscles *versus* Nerves,' is really the motto of our new Calisthenium, and the Calisthenium has been established from a conviction that a large number of cases of the highest interest are constantly to be met with, attributable to the causes already referred to, and proving conclusively the truth of the views which have just been cursorily given."

Gas, from the Philadelphia gas-works, has been introduced into the building, which is furnished with two-hundred and forty-five burners. "In the lecture-room, especial pains has been taken to make it tributary to the objects for which that room is designed—the amusement and instruction of the patients. Lights have been arranged to show transparencies to great advantage, while fixtures have been contrived for the convenient darkening of the room during the exhibition of dissolving views, and for showing the different modes in which gas may be burned, as well as some other somewhat novel arrangements that are likely to interest our audience."

2. *Massachusetts State Lunatic Hospital.*—In Massachusetts, a new State Hospital for the insane is nearly completed. Dr. Chandler, of the hospital at Worcester, in his report for 1851, in alluding to it, and also to the prospect that a third establishment of the kind will become necessary in the course of a few years, discusses the subject of having distinct institutions for the two sexes. He quotes the great German *psychiater*, Dr. Jacobi, in favour of such a plan, and concludes that the propriety of it will hardly be questioned by those who are practically familiar with the subject.

	Men.	Women.	Total.
Patients at the State Hospital, Dec. 1, 1850, .	228	213	441
Admitted in the course of the year . . .	125	138	263
Whole number	353	351	704
Discharged and died	111	127	238
Remaining, Nov. 30, 1851	242	224	466
Of those discharged, there were cured . :	56	55	111
Died	13	26	39

Causes of death.—Marasmus 3, apoplexy and palsy 6, consumption 5, epilepsy 4, suicide 1, disease of brain 1, typhus fever 1, lung fever 2, dysenteric fever 1, inflammation of bowels 3, erysipelas 3, bronchitis 1, old age 1, maniacal exhaustion 5, pleurisy 1, jaundice 1.

"Intemperance," says Dr. C., "sends a few of its victims to us every year. A singular case, in respect to long-continuance, now nearly a year, of the peculiar symptoms of delirium tremens, has been under our care. When his attention is not diverted by the presence of others, he almost constantly sees 'the pistols of the villains who are trying to shoot' him, 'pointing right towards' him. He often holds the building from 'tipping over on to him,' as he says; and he will exert himself for hours to prevent his wagon from turning over."

"Two cases have come to us the past year, resulting from disease of the bowels contracted in California. The disease of the bowels in each case has been removed, but the sympathetic affection of the brain will remain. Within the last three years, the wives of nine men have come to our care in consequence, in almost every instance, of their husbands going to California."

In the remarks upon the mortality in the Institution, it is stated that "insanity, with many, is but one of the symptoms of a general breaking-up of the physical constitution." It "usually consumes the vital principle rapidly. But there are a few exceptions where the physical powers are but little affected by many years of mental disturbance. The average of the 36 who died the last year, the duration of whose insanity was known, was 49 years and 8 months. The average time insanity continued in the 28 in whom it lasted more than one year, was 9 years and 3 months; and the average time it continued in the 8 in whom it did not continue one year, was 4 months and 7 days."

A valuable meteorological journal has been published in the annual reports of this hospital for the last thirteen years. In 1851, the State furnished the Institution with a set of instruments for the purpose of making more extensive observations. They consist of a barometer, thermometer, psycrometer, rain-gauge, and graduated measures. They were accompanied by a table of reduction, and the directions emanating from the Smithsonian Institution.

By the report of 1852, it appears that this establishment is likely to become an asylum for foreign paupers, rather than a curative establishment for natives. The number of foreigners remaining at the close of the year 1842 was 34, and the number has regularly increased, until, at the end of the last year, it was 241.

	Men.	Women.	Total.
Patients remaining, Dec. 21, 1851	242	224	466
Admitted in the course of the year	148	161	309
Whole number	390	385	775
Discharged	126	117	243
Remaining, Nov. 30, 1852	264	268	532
Of those discharged, there were cured	55	48	103
Died	20	25	45

Causes of death.—Maniacal exhaustion 11, marasmus 7, consumption 6, apoplexy and palsy 3, epilepsy 3, "disease of brain" 2, old age 6, disease of heart, suicide, hemorrhage, intestinal inflammation, dropsy, diarrhœa, and "disease of brain from intemperance," 1 each.

During the first half of the year, there were 13 cases of erysipelas of the head among the patients, but none of them were fatal. The application of warm water was "grateful in some cases, but the effects of other topical applications of doubtful utility."

In reference to the subject of hereditary predisposition to mental alienation, Dr. C. says: "A mother, two sisters, and a brother, have been inmates of this hospital. All of them have been here twice, and some three times. Two brothers and two sisters, of another family, have been inmates here. Other members of the same family have been insane. The members of this family were periodically affected. Of another family, two brothers and a sister have been patients here. The father, mother, a sister, and two other brothers, were for a time insane. At this time, we have three male patients, who have each a sister with us. A mother and her daughter are patients here, at this time. We once had twin sisters, and once a man and his wife, as patients."

Upon another subject, and one which has attracted considerable attention in some other parts of the country, during the past two or three years, we find the following statements: "Five (patients) have been brought to us, whose minds were overborne by investigating the phenomena early designated as the 'Rochester knockings.' The two males recovered their former health of body and mind very favourably, and two of the females will probably recover. They were all what are called 'nervous' persons, and were, at the time of their admission, suffering from physical disease."

The whole number of patients admitted during the twenty years of the operations of the hospital, is, of males 2090, females 2080, total 4170. Of these, 929 males and 979 females have been discharged recovered; and 232 males and 218 females, a total of 450, died in the hospital. In the first decennium, the number of males admitted was 812, of females 751, the former considerably predominating. In the last decennium, the number of males was 1291, of females 1322, the latter predominating. The average number in the hospital has regularly increased from 107 in 1833, to 515 in 1852. Greatest number, at any one time, 552, in September, 1852.

3. *Bloomingdale Asylum.*—Dr. Nichols's report of the Bloomingdale Asylum, for 1851, is extremely brief, extending only to the length of *two pages.*

	Men.	Women.	Total.
Patients remaining at the close of 1850	50	60	119
Admitted in 1851	43	52	95
Whole number	93	112	205
Discharged	33	39	72
Died	6	5	11
Remaining, Dec. 31	54	68	112
Of those discharged, there were cured	17	26	43

Causes of death.—Epilepsy 3, serous apoplexy 2, "tuberculous disease, one chiefly affecting the bowels, the other the lungs," 2, puerperal peritonitis 1, arachnitis 1, "old cases of senile dementia, in one of which death appeared somewhat hastened by an attack of eczema, and the other by jaundice" 2.

Dr. Nichols resigned his office in the spring of 1852, and has since been appointed to the superintendence of the National Hospital for the Insane, about to be erected in the District of Columbia.

Dr. D. Tilden Brown, a gentleman well qualified for the place, was elected as successor to Dr. Nichols. In making up the report for 1852, although he has "followed in the footsteps of his predecessor, yet he hardly equals him in brevity, for the document extends to *three* pages.

	Men.	Women.	Total.
Patients at the close of 1851	54	68	112
Admitted in 1852	56	48	104
Whole number in 1852	110	116	226
Discharged, died, and eloped	58	49	107
Remaining at the close of the year	52	67	119
Of those discharged, there were cured	25	23	48
Died	11	7	18

Causes of death.—Paralysis 4, epilepsy 3, puerperal mania 2, exhaustion from prolonged excitement 2, apoplexy, inanition, extensive abscesses, dysentery, acute meningitis, 1 each; (2 not stated.)

"Seven patients died within ten days after admission, and five others after a stay varying from two to four weeks."

4. *Ohio Lunatic Asylum.*—Next upon our file to the report from Bloomingdale, lies its antipode in length, that of the Ohio Lunatic Asylum, for 1851. Here are ninety-five large and closely printed pages, from the pen of Dr. S. Hanbury Smith, the extent of whose professional reading is probably as great as any other physician who has been connected with the institutions for the insane in this country.

	Men.	Women.	Total.
Patients remaining Nov. 16, 1850	170	148	318
Admitted in course of the year	133	150	283
Whole number	303	298	601
Discharged	153	147	300
Remaining Nov. 16, 1851	150	151	301
Of those discharged, there were cured	77	86	163
Died	19	21	40

Causes of death.—Exhaustion of acute mania 5, chronic mania 6, phthisis pulmonalis 4, apoplexy 3, chronic peritonitis 3, dysentery 3, tabes mesenterica 3, inanition 3, chronic hepatitis 2, epilepsy, general paralysis, pneumonia. bilious colic, chronic colonitis, nephritis, gangrene of face, anasarca, 1 each.

"Five were brought in dying, and a sixth died on the road. Persons unaccustomed to see and treat such cases are very apt to be deceived by the *apparent strength* of the patient, not suspecting that his unceasing exertions are rapidly wasting the oil of life."

"During the past year, no less than 23 persons were received, perfectly quiet and harmless, but in whom intellect was utterly extinct. * * * When. as has been so long and so advantageously practised in Continental Europe and Great Britain, the medical officers of State Lunatic Hospitals shall publicly lecture on mental disorders, and instruct a select class of advanced students; when a knowledge of the nature and treatment of insanity shall be looked upon as indispensable to the well-educated physician, and colleges shall make the possession of that knowledge a condition necessary to the obtaining of a diploma, then will establishments like this, mainly intended for *the cure of mental disorders, not the custody of the incurably insane,* cease to have their wards filled with hopeless cases, patients will neither be hurried off to die on the road or immediately after their reception in the asylum, nor be kept at home until their cases have become hopeless."

We quote the following extracts from the remarks upon medical treatment. "The asthenic character of disease, now becoming so marked in the great Western Valley, has been singularly prominent in the cases received last year. In no one was the idea of depletion entertained for an instant, by any of the medical officers of the Institution; and those who had lost blood previously to their admission proved exceedingly difficult to restore, sank into hopeless dementia, or died. It must now be considered as a settled thing that, during the continuance of the present asthenic epidemic constitution, depletion is exceedingly hazardous, and commonly contraindicated in insanity; and in the very same forms of disease in which bloodletting was formerly so freely practised, the liberal use of stimulants is now required, tolerated, and proves eminently curative.

"In the treatment of acute cases of mania, the bowels have been first thoroughly cleared by appropriate medicine; such as a warm aloetic purgative, cathartic pills, or calomel and jalap, assisted by compound infusion of senna, and injections, as the case might be. Sometimes I employ an emeto-cathartic of one grain of tartar-emetic, ten grains of calomel, and twenty of ipecacuanha. After freely evacuating the bowels, they have been kept soluble with milder medicines. Immediately after the action of the cathartic, sometimes previously to, or during that action, the patient commences the use of from four to six ounces of wine, three or more times a day, or an equivalent portion of brandy, together with abundance of the most nourishing and easily digested food. Excitement commonly ceases very quickly under the above treatment."

If the stimulus cease to have curative and produce patho-genitic effects, as indicated by a dry tongue, constipation, and cardiac irritability, it is stopped, and substituted by ferruginous tonics, of which Dr. Smith prefers the muriated tincture of iron.

"Only in some few cases, marked by extreme irritability, restlessness, and want of sleep, with moist, flabby, and tremulous tongue, natural or dilated pupil, frequent, irregular, and weak pulse, and cold relaxed skin, has opium been used to any extent; then commonly with wine, and always with excellent effect. In proportion as the general condition approaches that of a patient delirious from typhoid fever, have we found the combination of opium and tartar-emetic, as recommended by Graves, and in the form originally proposed by him, of service, though its use requires watching, to guard against ill-consequences from its depressing action."

"With regard to the treatment of puerperal mania, I have nothing new to offer. I shall content myself with expressing the opinion that bloodletting is eminently contraindicated. In this matter all authorities agree. Churchill says he 'has never found it advisable.' Pritchard, that it 'is condemned by all practical writers, on whose judgment much reliance ought to be placed;' and Esquirol, Harlam, Gooch, and Burrows, are equally opposed to it. Even where local inflammation is discovered, there are other means of combating that besides bloodletting, which, if decided upon, must be used with the utmost caution; and, with the present epidemic constitution of disease, I should much fear even local depletion.

"Our main reliance is upon purgatives. If there is great excitement, I have much confidence in the already-mentioned combination of the potassio-tartrate of antimony, with opium, known as 'Graves's Mixture,' or muriate of ammonia, with digitalis; afterwards, if the head be not hot, full and repeated doses of opiates. Exhaustion is the great danger to be apprehended. This is to be combated with nourishing diet, easy of digestion, tonics and stimulants, as wine, ammonia, turpentine. As a tonic and stimulant, I have a predilection for a combination of chinoidin and serpentaria, analogous to, but more active than Huxham's tincture; and in lesser degrees of debility, I employ valerian and arnica."

Dr. S. states, that 37 of 108 married or widowed females admitted during the year, had become insane in consequence of childbearing; and 25 of the cases were *puerperal.* This "enormous" proportion serves as a text for remarks to a considerable length, in which he assumes that so great a prevalence of puerperal mania must act as a powerful genitive cause of insanity, by the transmission of an hereditary taint to the children.

Seven cases of insanity connected with disease of the ear, inflammation of the meatus-externus and the tympanum, were treated in the course of the year. Three of them were cured by curing this local disease. The fourth was a demented patient, in whom the otorrhœa produced maniacal excitement. The latter subsided in proportion as the former approximated restoration. The other three were under treatment, but two of them "have hitherto proved refractory."

Under the head of "Critical Phenomena," five cases are related in which, during the course of the year, the patients were cured of their psychical disorder by diarrhœa; four, by "boils;" one, by "sloughing sores, especially on the lower limbs;" and two by "cachectic sores."

"A long experience," says Dr. S., "of the great value of the preparations of chlorine in adynamic conditions, caused by or accompanied with a presumably *septic* change in the blood, has led me to make trial of them in those forms of mental disease associated with an unusual lividity and coldness of the lips, hands, and sometimes the tip of the nose, evidently due to an embarrassed capillary circulation, and that, as I conceive, ascribable to some such morbid condition as that above mentioned. In such cases, the chlorate of potassa is the preparation I prefer, and the observations of the last year have fully confirmed the opinion of its value which I entertained. Again and again has its use corrected the condition of the circulation in question, when all other means had been tried in vain; speedily removing or diminishing the lividity, coldness, and sluggish movement, with a correspondent improvement in the health of body and mind. I commonly prescribe it in doses of two or three grains, quickly increasing to ten grains or more, dissolved in two or three ounces of camphor-water, three or more times a day. Occasionally, it may with advantage be administered in infusion of valerian, arnica, or with almost any other medicine indicated."

"In four cases, two of dementia and two of mania, caused by masturbation, the tincture of the muriate of iron, in large doses, was found to be the best anaphrodisiac we could employ, appearing to be the real agent in the cures which followed its use." The nymphomania of a case of recurrent mania was rapidly cured by bromide of potassa, in fifteen-grain doses, three times a day.

Arranged under separate captions in this elaborate report, among them the "impropriety of deceiving the insane," and "on the treatment of patients after they return home," the reader will find much interesting and useful matter. Since the publication of it, the hydra of politics has crawled, in its slimy pathway, into the domain of philanthropy, benevolence, and charity, in Ohio, and driven from their places all the officers, not of the Lunatic Asylum alone, but of all the State institutions in the city of Columbus. Ohio had previously taken and sustained an exalted position in regard to those of her citizens who, suffering under the defects and diseases to which our race are liable, demanded or merited that assistance which can best be afforded at public institutions. The whole expense of the Lunatic Asylum, original and current, and, if we mistake not, of some, if not all, of the other benevolent establishments, have been and are defrayed from the public treasury. So noble a precedent ought not to have been soiled, its merit dimmed, annulled, by one which, in the minds of all who rightly understand the nature of the duties of the officers of an institution for the insane, can but be considered as imprudent, unwise, unjust, ignoble, seriously detrimental to the welfare of those for whose benefit those institutions are founded.

We are writing of *principles,* not of *men.* For aught we know, the places of the removed officers have been supplied by persons equally meritorious, although they lack the important element of experience. But if the principle be established that rotation in office, at public beneficent institutions, must correspond with the changes in national, State, or municipal politics; that the moneys devoted to charitable objects must be converted into "loaves and fishes" for the maws of political cormorants, then farewell to all progress in those institutions, to the hopes and aspirations of the philanthropist, and to the best interests of the insane, the blind, and the deaf and dumb. Apathy of officers, carelessness of police, looseness of administration, neglect of patients or other inmates, and general deterioration, must be the inevitable results. May Ohio soon retrace the path in which, by a humiliating descent, she has taken the initiative; and may all other States contemplate this precedent in its proper light, that they may shun and not follow it!

5. *The Illinois State Hospital for the Insane* is at Jacksonville, and under the superintendence of Dr. J. M. Higgins. The second biennial report was issued before the buildings were sufficiently complete to receive patients, and consequently is principally devoted to financial affairs. From the third report, which closes with the 1st of December, 1852, we learn that the hospital was opened for the reception of patients on the 3d of November, 1851.

	Men.	Women.	Total.
Patients admitted	73	65	138
Discharged cured	18	16	34
Died	1	5	6
Remaining, Dec. 1, 1852	43	39	82

In view of the fact that about two hundred and forty applications for the admission of patients—enough to fill the present building—have already been made, and that the means of classification are imperfect, Dr. H. recommends the erection of two additional receding wings, as was contemplated in the original design of the establishment.

The barn was burned in July last, having been set on fire by one of the patients, intentionally, so far as appears. The buildings are to be warmed by steam, on a similar plan to that of the hospital at Trenton. The boilers are in a detached building, ninety feet distant from the principal edifice.

The amount of work which, according to the report, has already been performed by the patients, is a sufficient evidence that a proper estimation of manual labour, as a hygienic and restorative means, is entertained by the superintending officer of the institution. P. E.

Art. XIV.—*A Treatise on General Pathology.* By Dr. I. Henle, Professor of Anatomy and Physiology in Heidelberg. Translated from the German by Henry C. Preston, A.M., M.D. Philadelphia, Lindsay & Blakiston, 1853: 8vo. pp. 391.

The author of this treatise introduces it to the profession with the declaration that it is unnecessary to make any apology for its theoretic tendency. He says: "It is the prevailing conviction that, as the old, empirical, eclectic system of medicine, against which we are struggling, is founded upon various hypotheses, so its foundation is the more insecure the less its fundamental principles are connected, and the less it was considered, in the building up of the system, how much it would be able to support. The science of medicine is now aroused to such a degree of self-consciousness that she has no superiority over other empirical knowledge; that she cannot take a step in advance which she has not first marked out by an hypothesis. And this is well; for the day of the last hypothesis would also be the day of the last observation." The translator would have done well, we think, to have retained the original name of

"Rational" Pathology, since it is less a treatise upon general pathology than an exposition of certain scholastic principles of investigation applicable to this subject. We have found no little difficulty in following the intricacies of the author, and unravelling the true sense of his metaphysical language, incumbered by the awkward assistance of a too literal translation, but will strive very briefly to lay before the reader a general idea of the contents of the work.

A sketch of the comparative value of the numerical and the theoretical system is found in the Introduction. The author arrives at this result, viz., that the two modes of examination are mutually dependent; that an hypothesis suggests an experiment as often as this does an hypothesis, and that it is not by a rigid separation of the two that the advance of medical science may be furthered, but much rather by their co-operation.

The author divides his subject into: 1st. The idea and nature of disease. 2d. The doctrine of the causes of disease in general, or general etiology. 3d. The local relations of disease; the conditions of its propagation in the organism; the manner of its transition from one organ to another. 4th. The relations of disease in regard to time, or the general history of disease; its course, duration, and termination. Disease is defined to be a deviation from the type according to which organic beings develop themselves; and the nature of disease "the manifestation of the typical force under unusual conditions." By *typical force* is meant the force which gives a determinate form to matter. Hence, all knowledge of morbid processes depends upon a discernment of the nature and mode of action of the typical force. The distinction made between the vital and the typical force is that the former is general, the latter specific. The former, for example, "contains the cause why an egg is developed under the influence of caloric; the latter, the reason why it is developed to this or that particular organism. There is only one vital force, but just as many typical forces as there are empirically limited genera of animals and plants. We will not attempt to lead the reader through the subtle speculations respecting these forces, but extract the following passage, which appears to embody the author's idea: "Anomalies are explained as manifestations of the typical forces under extraordinary conditions; from the peculiarities of the type of organic beings should be explained why among these anomalies only are represented as diseases or morbid processes. We find that the matter of animate bodies is in constant fluxion; that the loss and renewal of substance is a fundamental character of the living. . . . Only as long as it maintains itself is the individual sick: an alteration which completely annihilates it, occasions not disease but death. Disease, therefore, is a process, because life is a process; if it belongs to the type of a body to change its form or substance, then abnormal influences change it not only for the instant, but they also change its mode of transforming itself; according to the duration of their effect, they divert it for a longer or shorter time, or for ever, from the object for which it was destined. The development deviating from the destined *aim* is the *pathological process.*"

The chapter on etiology carries on the hypothesis of typical forces, representing these as in conflict among themselves and with the natural forces of the external world. The living body possesses the property of being *irritated*, of repelling this *irritation* by *reaction*, and of afterwards returning to its normal condition, which act is termed *restitution*. These qualities are treated of at length, and followed by a discussion of the effects of practice, habit, and usage. The remarks upon the hereditary quality and the constitution are of a highly interesting and philosophical character.

Under the head of "disease in its relations of extent," the subject of sympathy and antagonism is fully entered upon. Sympathy is defined as "the inborn or habitual connection of the parts of an organism, interposed by one of the normal tissues or organs, in such a manner that, reciprocally in the rule, the changed condition of the one causes a change in the other." The distinction made between sympathy and antagonism is that, in the first, the change in the condition of one organ produces a similar change in the one which is sympathetic; while in the latter a change of an *opposite* character occurs. Hence, the sympathy between the skin and the kidneys is called antagonistic, since the function of the one is exalted when that of the other is depressed; but the discharge of tears occasioned by taking snuff, and headache owing to indigestion, are presented as examples of sympathy or synergy. The relation may also be synergetic or antagonistic; "thus, inflammation of the mucous membrane of the nose (catarrh) may continue as an exanthem upon the external parts of the nose synergetically, and is cured antagonistically by cutaneous irritants."

We pass over the "sympathies through the blood," which really do not seem to us to be clearly made out, and come to the sympathies of the nerves. This portion of the work is by far the most interesting and instructive. The author prefaces his observations upon the nervous sympathies with a description of the anatomical structure of the nervous system in a physiological point of view. The sympathies are treated of under the divisions of those of the cerebro-spinal, splanchnic, or visceral nerves, nerves of the cellular tissue, vascular nerves, and psychical nerves.

It would be in vain for us to offer even an analysis of these chapters; for this, to be at all satisfactory, would far transgress our proper limits. Suffice it to say that, to those who delight in delving into the recondite mysteries of the nervous microcosm, the speculations of our distinguished author will give valuable assistance.

The ingenuity of these theories may interest while their intricacy perplexes the reader; they are the product of a genuine German mind, ever at home in the misty regions of hypothesis. How far they really improve our acquaintance with the pathology of the nerves remains to be determined. It is certain, however, that the author has laboured most earnestly and conscientiously to this end, and we may hope that his opinions will stand the test of time and future experiment. M. S.

ART. XV.—*Medical Jurisprudence.* By ALFRED S. TAYLOR, M.D., F.R.S., &c. Third American, from the fourth London, edition. Edited, with additions, by EDWARD HARTSHORNE, M.D., &c. &c. Philadelphia, Blanchard & Lea, 1853: 8vo. pp. 621, including glossary and index.

WE are glad to see another American reprint of this excellent manual. The comparatively rapid sale of so many large editions affords encouraging evidence of the increased interest felt by legal and medical practitioners generally in the study of Medical Jurisprudence.

It cannot be denied that a lamentable negligence, as well as ignorance, of the most elementary principles and facts discussed by Dr. Taylor has existed, and still more or less prevails, among otherwise accomplished members of both professions in the United States. The great majority of those who practise at the bedside or at the bar appear, so far as practical results would show, to regard this particular course of study as one that hardly comes within their province, except as a matter of curiosity or general scientific note. They are too apt to forget, unless suddenly reminded of it by some unforeseen and painful *contretemps*, that no lawyer or physician is ever altogether free from the liability to become involved in a medico-legal inquiry that must end, to a greater or less extent, in a public trial of his own acquirements as an expert or a medical jurist. Exposures of this kind, and the mischievous and mortifying blunders consequent upon the want of preparation for them, are frequent enough to have provoked abundant comment in relation to important questions; but a much larger amount of equally disgraceful and absurd neglect of the ordinary rules of legal medicine occurs in the management of minor cases coming up from day to day, the details of which are too easily overlooked. The short comings in these instances, bad and common as they are, owe their escape from the censure they deserve more to the indifference and incompetence of the frequenters of the courts, than to any actual want of moment in the issues tried. We view with especial satisfaction, therefore, every new advent of a standard treatise like the one before us.

We value it as a pioneer scarcely less than as a guide. The merit which has always most effectively distinguished it, is its adaptation not only to supply, clearly, forcibly, and most practically, all the important precedents and precepts of the science in its foremost progress, but to present these in so convenient a form and agreeable a manner as to attract an attention to such studies which more voluminous, although classic treatises, have failed to win. Dr. Taylor's name, in fact, has long been an ample guarantee for the high character of any work he may produce; and the well-established reputation of his previous editions renders it unnecessary to dwell upon the sterling qualities which characterize the last, in common with its predecessors.

We may proceed, therefore, without farther commendation, or any attempt at critical analysis, to point out briefly the improvements which the book has undergone in its seventh passage through the press. For this purpose, we can not do better than to use the language of the author and his commentator in their respective prefaces. The former tells us that "he has found it necessary to revise the whole of the chapters," and that many important cases of recent occurrence have been introduced along with numerous other additions and alterations. The latter likewise informs us that the London imprint is brought so fully up to the date of publication that the short time since elapsed has rendered his duties comparatively light. He has taken care, however, to incorporate in his own notes all that was still applicable of the additions of his lamented predecessor, the late Dr. R. E. Griffith, and "has endeavoured, also, whilst avoiding any increase of bulk as much as possible, to present all the important facts and cases that have recently occurred within his knowledge, especially in this country."

The following extract from the English preface will give a more precise idea of the nature and value of the changes above referred to:—

"Under Poisoning, the additions include a notice of the new enactments affecting medical evidence, and of the recent decisions regarding the administration of poison; some new facts and cases illustrative of the action of arsenic, opium, strychnia, the salts of lead, antimony, and other poisons, as well as improvements in the application of chemical tests for the detection of poisons. Under Wounds, the changes produced by the new statutes; cases of peculiar and severe suicidal wounds; struggling and power of exertion in wounds of the heart; processes for the detection of blood-stains, and their distinction from vegetable dyes; the examination of weapons and projectiles; additional facts regarding burns on the living and dead bodies. Under Child-murder, medical evidence derivable from an examination of the umbilical cord, with references to many new cases. Additions have been made under Abortion, on the action of oil of savin: under Legitimacy, on the duration of pregnancy; proofs from the development of offspring; plural and twin births: under Rape, fallacies attending evidence from the examination of females: under the various forms of death from Asphyxia, additional facts regarding the examination of the bodies of persons who have died by drowning, hanging, strangulation, and suffocation; facts and cases illustrating the means of distinguishing homicidal from suicidal strangulation: under Insanity, some additions on the application of Restraint; decisions in recent cases, showing the liability of medical practitioners; the testimonial capacity of the insane, with remarks and cases illustrative of Homicidal Mania and the Plea of Insanity."

In glancing at the additions of the American editor, we notice several under Poisons, and under different heads throughout the book. Under the first caption, we find paragraphs relating respectively to the meaning of the term "poison;" to the influence of habit on poisons in connection with the use of opium or arsenic; the solubility of arsenic; lead poisoning; fatal effects of oil of tansy; poisonous flesh and other food; and, finally, to narcotico-acrid plants of the United States. In referring to the habitual employment of opium, and the alleged resort to arsenic in the same way, Dr. H. calls attention to the enormous increase (ten times in as many years) in the consumption of both of these dangerous drugs, and to the importance of ascertaining what becomes of the great quantities of arsenic which are now constantly spread over the whole country, to be tampered with at will by every one without the least account-ability. Whatever may be done with it, serious mischief will inevitably grow out of the reckless distribution of so potent an agent, unless some means similar to those now happily in operation under the recent British law be speedily adopted. The inquiry is now in the hands of a most competent committee of the National Pharmaceutical Association, to whose care it properly belongs, and who doubtless will be able to throw some material light upon the question in its different bearings. We agree with Dr. H. in the earnest hope that they will not only clear up the mystery of the inordinately disproportionate demand for arsenic in places where it cannot be devoted to manufacturing or the arts; but will, moreover, devise some efficient plan of action which shall save our community from the shocking state of things by which our British brethren were finally aroused to the enactment of the stringent regulations now in force among them. We are not aware of any law in this Union which places proper restrictions on the sale of poisons, except the law of the State of Ohio, and this is, probably, as Dr. Hartshorne intimates, a dead letter in that State.

Unfortunately, neither time nor space will allow us to specify at length or comment farther on the Philadelphia additions, although some of them, and one or two especially, we think worthy of more particular notice. Among them might be mentioned those upon the non-immediate fatality of fractures of the skull; upon the fatal administration of the oil of tansy for abortion; on the rights and interests of persons of doubtful sex, or afflicted with sexual malformation; on the pathology and treatment of asphyxia from drowning, hanging, poisonous inhalations, or other causes; and, finally, upon the various knotty and perplexing questions connected with mental aberration in its different forms.

We must leave these topics for the present, however suggestive and tempting in themselves, and dismiss them with the single remark, which is due to the labours of our friend, that although necessarily brief and sparing in frequency, in obedience to the design and example of his author and the best interests of his working readers, his notes are interesting and instructive, and prove that his familiarity with this peculiar kind of reading has enabled him fully to attain the modest end proposed, of adding "somewhat to the usefulness of this reprint among his countrymen, if not to its interest generally as the latest publication on the subject." We cordially wish him, and the publishers who have intrusted him with its preparation for the American press, the gratifying success which it enjoyed under the care of the accomplished Griffith, and which every such essay of Dr. Taylor will be sure to win. No work upon the subject can be put into the hands of students either of law or medicine which will engage them more closely or profitably; and none could be offered to the busy practitioner of either calling, for the purpose of casual or hasty reference, that would be more likely to afford the aid desired. We therefore recommend it as the best and safest manual for daily use, and as the most convenient as well as attractive introduction to the larger systematic works of Beck and others in our language, and of Orfila, Devergie, Casper, and others, in the Continental tongues.

Art. XVI.—*Letters on Syphilis: addressed to the Chief Editor of the Union Médicale.*—By Ph. Ricord, Chirurgien de l'Hôpital du Midi, &c. &c. With an Introduction by Amédée Latour, Rédacteur en Chef de l'Union Médicale, &c. Translated by W. P. Lattimore, M. D. Philadelphia, A. Hart, late Carey & Hart, 1852: 8vo. pp. 270.

The medical world is familiar with the reputation of M. Ricord as a syphilographist; and what he has done towards the elucidation of the obscure points connected with the history of venereal diseases is well known. In calling the attention of our readers to a new volume bearing his name, we need, therefore, only indicate the nature of its contents.

So far as we can see, M. Ricord contributes no novelty in this volume, but contents himself with going over again the ground which he has measured in his first Treatise on Syphilis, in his edition of Mr. Hunter's book on Venereal Diseases, and recently in his Iconographie Syphilitique. This reiteration of his views seems to have been evoked in consequence of the objections urged against them by several authoritative surgeons in France and elsewhere. Accordingly, in this series of Letters, thirty-five in number, M. Ricord advocates his own opinions and combats the opposing sentiments of his adversaries, in a very sprightly, and at the same time in a very forcible manner.

In the first *nine* letters, the prominent facts relating to *Blennorrhœa* are stated; that it is a distinct affection from Syphilis, possessing no uniform and specific contagious virus, like the latter, but induced sometimes by the matter of *leucorrhœa,* the menstrual blood, and other simple irritants, emanating from the genital organs of the female, who is herself entirely free at the time from any *venereal* disease; sometimes also by simple changes in diet, great and prolonged fatigue, excesses in sexual connection, or great sexual excitement without connection, while, however, its most frequent special inducing agent is the muco-pus furnished by the inflamed genito-urinary mucous membranes; that it is not produced by the secretion from a true syphilitic chancre, or, if so occasioned, it is only in consequence of this matter acting as *an irritant merely;* consequently, "a woman having a chancre at the inoculable period may thus determine in man a blennorrhagia which will not inoculate," p. 51; that the consecutive symptoms following blennorrhagic inflammation of the genito-urinary mucous membranes—bubo, rheumatism, &c., are essentially different from the true secondary phenomena of *chancre,* which depend upon a morbid alteration induced in the blood by the absorption of the syphilitic poison; that in all cases where a discharge, supposed to be merely blennorrhagic, has been followed by evidences of secondary syphilis, the diagnosis was faulty—a concealed chancre of the urethra, or of some other part, was overlooked; that the only certain way of forming a strictly correct diagnosis in suspected or doubtful cases is to inoculate with the secreted matter.

The remaining letters discuss the subject of *Syphilis* proper. The principal points touched upon are, the source of the specific cause of the morbid poison producing syphilis, viz. *chancre;* the inoculability of the secretion of chancre, under proper conditions; the identity of the effects occasioned by the natural and the artificial contagion; the non-inoculability, so far as *positive proof* has hitherto established, of the matter of *secondary* syphilitic sores, *e. g.* mucous papules, rupia, ulcerated tubercles, serpiginous ulcerations, &c. &c.; the possibility of communicating primary syphilis from man to the inferior animals, by artificial inoculation or otherwise; the pathogeny of chancre in its various forms; the characteristics and progress of the syphilitic bubo; the phenomena of constitutional infection; the possibility of *syphilization,* concerning which much discussion has recently taken place, *i. e.* the possibility of producing in an individual, by the aid of natural or artificial inoculation, such a condition of constitution as shall ever after, or at any rate for a time, render him proof against syphilis.

These topics are not new, as we have before remarked, and they are not presented as novelties in the book before us. But many of them are dilated upon rather more than in M. Ricord's previous publications. The style in which the letters are written, too, is attractive, piquant at times, and witty. Those who are already devoted to the views of M. Ricord, will be, we do not doubt, still more convinced of their correctness; those who are skeptic now, will not, after perusing this volume, have found much to remove or lessen their infidelity; because the manner in which truths are here presented and errors combated, is hardly severe and didactic enough to satisfy an unbeliever; like the operations of light-horse in warfare, it is rather adapted to distract, harass, annoy the enemy, than to conquer him.

The translator of these letters has had a more difficult duty to perform than ordinarily falls to the lot of the renderer of French medical writing; for the reason that the English language can scarcely unbend so much as to assume the easy, gay, and careless step of letter-writing French; the attempt must almost of necessity appear a little awkward and clumsy; one might as well expect a heavy Norman war-horse to prance and caracol like a lady's palfrey, or a whale to sport and leap like a trout. Bearing in mind this intrinsic difficulty, however, we think that Dr. Lattimore has succeeded very well in doing M. Ricord into English. There are a few terms which he has not been so happy in rendering as we could have wished, *e. g.* the words "chancre larvé" are almost constantly translated "chancrous *larvé*." This is exceedingly faulty; it would have been much better, it strikes us, to have left the words untranslated, for most physicians now know what "chancre larvé" means, or to have used the term concealed chancre. F. W. S.

Art. XVII.—*Elements of Health, and Principles of Female Hygiene.* By E. J. Tilt, M. D., etc. etc. Philadelphia, Lindsay & Blakiston, 1853: 12mo. pp. 436.

The leading principles of hygiene are applicable alike to both sexes; their object is to improve the physical condition of man and to maintain his entire organism, in the healthful exercise of its various functions. There are, nevertheless, peculiarities in the female constitution, and certain tendencies to disease resulting from these, which, though they in no degree change the general laws of hygiene in their application to her, nevertheless demand a special consideration of those laws in reference to her particular organization and sexual functions. To apply these general hygienic principles to the constitution and affections peculiar to the female sex is the object of the work before us; a work in which the elements of health in this point of view are so clearly delineated and ably enforced that we regret it will reach but few of those it is calculated to instruct in the means of avoiding premature decay, suffering, disease, and death, in themselves and offspring; that even of those by whom it will be consulted, so few will study and practice the precepts it inculcates. When we consider how difficult it is for the physician to secure, in all cases, a strict adherence to the therapeutic rules he lays down for the government of his patient when actually labouring under disease, it is easy to understand the still greater difficulty there is in inducing the young female to adhere to a proper hygienic course of living, whilst in the enjoyment of health, and amidst the numerous temptations to transgress held out by the allurements of pleasure, and the example and encouragement of those who surround her. The most that we can expect from a work like that of Dr. Tilt, so long as the principles of hygiene are neglected to be taught in our schools, is, that it may instruct some prudent mothers in those things which "minister to the health, and physical, may we not say, also, to the moral well-being of her daughters," and induce her, by precept and example, to impress the importance of these things upon their minds, and cause their mode of living, whilst they remain under her control, to be conformed to them.

There is nothing new in the principles of female hygiene inculcated by Dr. Tilt; he has, however, arranged them in a manner well adapted to render their application to the physiological peculiarities of the several epochs of female life easily understood; while he has illustrated and enforced their truth by a frequent reference to recent and reliable statistics. D. F. C.

Art. XVIII.—*The Obstetric Catechism; containing two thousand three hundred and forty-seven Questions and Answers on Obstetrics proper.*—By Joseph Warrington, M.D. One hundred and fifty illustrations. Philadelphia, Barrington & Haswell, 1853: 12mo. pp. 445.

As an excellent manual of obstetrics, to serve during the student's course of pupilage, for an index to those particular points to which his attention is to be especially directed, so that they may be fully understood and firmly impressed upon his mind, the work before us would receive our unqualified approbation. It is certainly a very able *resumè* of sound obstetric principles and precepts, well and clearly expressed. We regret, however, that the author has thought proper to give to the work the catechetical form. All manuals are liable to be abused, but none more so than those in the form of question and answer. The student will be apt to think that, when he has committed to memory the answers to the two thousand three hundred and forty-seven questions contained in the volume before us, he has actually acquired a *knowledge* of all those points in obstetrics to which these questions refer. It is in vain to tell him that it is from other sources and by prolonged application alone that a correct knowledge of obstetrical rules and practice can be acquired; he knows that he can answer all the questions put to him in his "text-book," and he rests satisfied, until called upon to test his knowledge in the parturient chamber; when, finding it necessary to act promptly in a case of emergency, and often when he has it not in his power to avail himself of other advice and assistance, he feels and deplores its insufficiency in the hour of need.

The recent rapid multiplication of manuals in all the departments of medical science, both at home and abroad, is to be deprecated. We fear that, so far from aiding the pupil in the prosecution of his studies, they are more likely to become an impediment to his acquisition, in a thorough manner, of that amount and degree of knowledge which can alone fit him for a skilful and successful practitioner. D. F. C.

ART. XIX.—*On Near Sight, Aged Sight, Impaired Vision, and the Means of Assisting Sight.* By WILLIAM WHITE COOPER, F.R.C.S., Ophthalmic Surgeon to St. Mary's Hospital, Senior Surgeon to the North London Eye Infirmary, &c. &c. Second edition. London, 1853: 12mo. pp. 320.

THIS is an interesting little volume, written in a popular style, and evidently with a view to the instruction of the non-professional quite as much as the medical reader. Though it cannot be said to contain anything absolutely new, it embodies much information with which it is essential that the ophthalmic surgeon should be familiar, and which may be useful to those who labour under certain defects of sight, by assisting them in selecting the best mechanical means for improving their vision.

The volume is divided into seven chapters. The first is devoted to the consideration of *Myopia*—its varieties, causes, symptoms, and treatment. Some judicious remarks are made in reference to the use of glasses, position during study, children's books, school-rooms, the choice of a profession for myopic persons, &c.

In the second chapter, *Presbyopia* or aged sight is treated of; its symptoms, causes, and the best means of remedying it. With regard to spectacles, Mr. Cooper justly observes, the use "should not be deferred; for, although it is a common notion that spectacles are injurious to the eyes (and no doubt they are so if those of an improper description be employed), yet when the powers of the eye so begin to fail that we cannot read nor write for any length of time without great discomfort, it is reasonable to conclude that refraining from their use is more injurious than their adoption." Mr. Cooper also gives some very judicious advice for the preservation of sight, and which we should be pleased to quote did our space allow.

The third chapter is devoted to the subject of impaired vision from over-work; a very common affection, protracted in its duration and difficult of cure, and in regard to the best management of which, we regret to say, Mr. Cooper affords us no new light.

A brief account of that very curious defect of sight, the inability to distinguish colours, occupies the fourth chapter.

Chapter fifth is devoted to the subject of glasses. The effects of the different kinds of lens on light are explained; the history of spectacles is related, with a description of the different kinds, and excellent directions are giving for choosing them.

In the sixth chapter, interesting descriptions are furnished of the different kinds of eye protectors; and in the last chapter, the subject of artificial light is discussed; the cause of its being injurious to the eyes is explained, and some useful suggestions made relative to the means of obviating these injurious effects.

ART. XX.—*On Diseases of the Liver.*—By GEORGE BUDD, M. D., F. R. S., Professor of Medicine in King's College, London, and Fellow of Caius College, Cambridge. Second American from the last and improved London edition, with coloured plates and wood-cuts. Philadelphia, Blanchard & Lea, 1853: 8vo. pp. 468.

THE treatise of Dr. Budd is too well known to require us, in a notice of this second edition, to enter into an examination of the manner in which the author has accomplished his task, and of the general accuracy of the views advanced by him in reference to the several diseased conditions of the liver, their pathology and therapeutics. The work has been well received by the profession, as one calculated to render more certain the diagnosis of the leading hepatic affections; and their treatment, in consequence, more rational and satisfactory. We have great pleasure in indorsing this favourable opinion. A careful examination of the present improved edition confirming the correctness of the estimate of the treatise of Dr. Budd, expressed by us on the appearance of the first American edition. D. F. C.

QUARTERLY SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES

IN THE

MEDICAL SCIENCES.

ANATOMY AND PHYSIOLOGY.

1. *On the Mode of Dissecting the Ear for the purpose of Pathological Investigation.* Mr. Toynbee read the following observations before the Pathological Society of London:—

The best mode of removing the ears for the purpose of dissection is (the calvaria being sawn off in the usual way) to take both out together by means of two transverse vertical sections. The anterior of these sections should pass in a line a little anterior to the anterior clinoid processes, and the posterior in a line through the posterior third of each mastoid process. By means of these two sections, the trumpet-shaped extremity of each Eustachian tube, a portion of the mucous membrane of the fauces, and the whole of the remaining portion of each organ of hearing, can be taken out. The disadvantage attendant upon this procedure is the disfigurement which is apt to take place by the falling backward of the face. To avoid this disadvantage, another mode of removing the ears has been more usually resorted to, and this consists in taking out each petrous bone separately, in the following manner: The calvaria having been sawn off, an anterior section is to be made from without inwards on each side on the same line as in the first plan, but extending as far as, but not through, the body of the sphenoid bone; a posterior section on each side is then to be made in the same line as in the first plan, but not extending through the basilar process of the occipital bone; the apex of each petrous bone is then to be separated by a chisel or saw from the sphenoid and occipital bones; and each petrous bone, the outer ear and integuments being detached from it, is then to be drawn upwards, taking care to remove as much of the soft parts as possible. With this second plan there is a difficulty in removing the whole of the guttural portion of the Eustachian tube; with care, however, this may be effected, especially if the final sections separating the petrous bones from the occipital and sphenoid be made to pass obliquely from above downwards and inwards. The organ of hearing having been removed, the dissection may be conducted in the following manner: The auditory nerve in its meatus should be first carefully examined.[1] The external meatus is to be inspected by removing its anterior wall by means of cutting-forceps.[2] The state of the epidermis, the ceruminous glands and secretion, the dermis periosteum and bone, are to be noticed. The outer surface of the membrana tympani is then to be examined, as well as the state of its epidermoid and dermoid laminæ, the degree of

[1] It is desirable to remove for examination the part of the base of the brain to which the portio dura and portio mollis nerves are attached.

[2] It is requisite to have two or three pairs of these forceps; they are made by Messrs. Ash, of Broad street, Golden square.

tenseness it possesses, and the amount of motion possessed by the malleus when it is gently pressed upon by means of a fine point. The next step is to examine the guttural orifice of the Eustachian tube, to lay open the cartilaginous tube with the scissors, and then to expose the cavity of the osseous portion by means of the cutting-forceps. In doing this, the tensor tympani muscle is exposed; its structure should be examined, and, if it have not a healthy appearance, portions of it should be submitted to microscopic inspection. The upper wall of the tympanum is next to be removed by the forceps; in doing which, great care must be taken not to disturb or disconnect the malleus and incus, which lie immediately beneath it. When the tympanic cavity is exposed, the first thing is to draw the tensor tympani muscle, and to observe to what extent its traction makes tense the membrana tympani, and moves the ossicles. The incus and stapes are now to be gently pressed with a fine point, so as to ascertain their degree of fixedness; the tendon of the stapedius muscle is also to be pressed. The condition of the mucous membrane of the tympanum and mastoid cells is next to be examined, and any peculiarity of the cavity, the existence of bands of adhesion, &c. &c., noted. The most delicate part of the dissection has now to be undertaken, viz., that of the internal ear. The first step consists in exposing the cavity of the cochlea and vestibule, by removing with the cutting-forceps a small portion of the upper bony wall of each. Before reaching the vestibule, the superior, semicircular canal will be cut through and removed, and the membranous canal should be carefully drawn out of it and examined. Upon inspecting the cavities of the vestibule and cochlea, it is desirable to see that the quantity of perilymph is natural, as well as its colour and consistence; the outer surface of the membranous labyrinth having then been looked at, it should be opened, so as to expose the endolymph and otoconia, and portions of the membranous labyrinth should be submitted to microscopic investigation. This having been effected, the remaining membranous semicircular canals are to be exposed, and the connection of the base of the stapes to the fenestra ovalis carefully examined. The last stage of the dissection consists in removing portions of the cochlea, in examining them microscopically, and in exposing from within, by following the course of the scala tympani, the membrane of the fenestra rotunda. The only organ which now remains unexamined is the stapedius muscle; to expose it, the course of the aquæductus Fallopii, beginning at the stylo-mastoid foramen, should be followed until the base of the pyramidal eminence containing the muscle is reached.—*Med. Times and Gaz.* March 5, 1853.

2. *Cell-Development.*—The extra-cellular development of cells, a condition admitted only by a few authorities in vegetable physiology, has been very extensively received in the domain of animal physiology and pathology, more especially since the promulgation of the cell-theory by Schwann. Remak has, however, from an early period, been strongly opposed to this doctrine, and has pointed out difficulties against its adoption, which are to be found, as he maintains, even in the writings of its chief supporters. In a recent communication on the subject,[1] this author cites many examples of admitted cell-development by segmentation—segmentation of the vitellus (Schwann), by formation of daughter-cells in the growth of organs, and the transformation of embryonal cells into tissues, epithelium, blood-cells, and muscular fibres (Reichert). He also calls attention to the absence of free nuclei in embryonal cartilage (Kölliker), and in the deeper layers of the epidermis (*idem.*). J. Müller has likewise observed that endogenous cell-formation plays a large part in pathological anatomy. Remak himself considers the extra-cellular development of animal cells as improbable as the equivocal generation of organisms. As the result of a series of investigations undertaken to determine this question, he states that he has observed the propagation of the blood-corpuscles to take place by segmentation in the embryos of birds and mammalia; in the larvæ of frogs he has seen the striped muscular fibres to originate in the longitudinal division of cells. Observations, since more extensively prosecuted, have satisfied him that this is

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[1] Müller's Archiv. No. i. p. 47, 1852.

the general method of transformation of the embryonal cells into tissues. He gives the results of researches on the segmentation of the vitellus and the division of its cells. The cells he believes to pass subsequently into permanent tissues; thus the primary vessels are at first solid cylinders, consisting of embryonal cells united together, the external of which form the walls of the tube, while the central or axis cells pass into blood-corpuscles. He considers this theory applicable to pathological as well as normal histogenesis.—*Brit. and For. Med.-Chirurg. Review*, April, 1853.

3. *Blood.*—M. Lecanu presented to the French Institute (July 5, 1852) a memoir on the blood, in which he takes up the solution of some highly important questions, viz., the origin of the fibrin; the separation of the globules from the other constituents, and the determination of the chemical constitution of the globules. Having satisfied himself that a concentrated solution of sulphate of soda, which prevents the precipitation of fibrin, is without action on the globules, he received a quantity of blood into a solution of sulphate of soda, at a temperature of 12°, and marking 12° Baumé. The mixture was then filtered; the globules remained on the filter, while the serum passed through; from the latter, on the addition of eight or nine times its volume of water, the fibrin was precipitated in gelatinous filaments, scarcely a trace of it remaining in the filtered liquor. As it is subsequently shown that the globules contain but very little fibrin, and that only in their envelops, it follows that this substance is contained in the serum chiefly. In order to obtain the globules perfectly free from serum, it is only necessary to allow them to remain on the filter, and wash them with the saturated solution of soda. When obtained thus, M. Lecanu finds that they consist of not less than eight different substances: 1. Hæmatosin; 2. Globulin; 3. A very small quantity of albumen; 4. A fibrinous matter, constituting their envelop; 5. An animal extractive matter, soluble in ether and alcohol; 6. A fatty matter; 7. Various salts, amongst which are chlorides, phosphates, and alkaline carbonates; and 8. Water, which holds all these matters, with the exception of the envelop, in solution. Water, it is well known, breaks up the globules, leaving their envelops isolated, and dissolving their contents; by boiling this solution, the globulin, hæmatosin, and albumen are coagulated. Hæmatosin is soluble in alcohol and ether at ordinary temperatures, giving to the solution a beautiful red colour of blood, and by spontaneous evaporation forming small lamellæ of a metallic lustre, and an amethyst colour, exactly like the red silver of mineralogists. M. Lecanu believes in the presence of iron in the blood, but does not express himself definitely as to its particular mode of combination. (He suggests, with regard to hæmatosin, that there is reason to think that it would be an excellent substitute for the combinations of iron exhibited in chlorosis and other affections. The difficulty of procuring it in sufficient quantity is, however, considerable; the largest quantity he obtained being about 30 grains, from somewhat more than one pound and a half of ox blood.) With regard to albumen in the globules, the commissioners appear to think that as it is in such very small quantity in these little bodies, swimming in a highly albuminous fluid, its presence in them may be due to absorption or endosmose. The following contrast between the two chief constituents of the blood is highly interesting and valuable: "It results," say the commissioners, "from these observations, that the animal matters which compose the serum are essentially different from those which compose the blood-corpuscles. The serum contains albumen and fibrin: no globulin—no hæmatosin; the globules, on the contrary, contain hæmatosin and globulin, with a fibrinous matter, but no fibrin, and only a little albumen."—*Brit. and For. Med.-Chirurg. Review*, April, 1853.

4. *Effects of Chloroform on the Blood.*—Mr. De Chaumont read before the Edinburgh Physiological Society the following communication:—

Much controversy has arisen as to the real nature of the effect of chloroform on the blood. Amussat, Sédillot, etc., have contended that the blood is darkened by it, and that the effect is quite analogous to asphyxia. Gruby, on the other hand, contends that not only is the arterial blood not darkened but that the venous blood is even rendered as bright as the arterial. I have found that when blood is agitated with chloroform it does not coagulate, but becomes quite transparent; and when the blood is venous the colour is rendered as brilliant as that of arterial blood. Sulphuric ether, on the contrary, does not affect the colour of venous blood. Chloroform seems thus to have a special effect of brightening colours, not only in this but in other cases; as, for instance, when it dissolves iodine, the solution has not the deep-brown colour obtained when water, alcohol, etc., are used, but has the beautiful violet hue of the vapour. In some cases chloroform restores the colour of old blood-stains on linen, etc., but the effect is not constant. When blood, acted upon by that agent, is examined by means of the microscope, the red globules are found completely dissolved, the field presenting only a homogeneous coloured expanse, in which the white globules float unaffected. Chloroform acts on pus very similarly to acetic acid, as it brings into view the double and tripartite nuclei of the globules, although the effect is not so speedily accomplished as by acetic acid. When the blood of leucocythemia is acted upon, the red globules dissolve, and the white present the reaction not of the ordinary white globules of the blood but of pus. With the view of observing the effects of the administration of chloroform on the blood in the living body, I attempted to anæsthetize a rabbit by the rectum, so as not to interfere with the respiration. Although two drachms were injected, no other effect was produced except an intoxicated appearance, which did not give immunity from pain. This corresponds with what was observed by Flourens in the early days of etherization. Another rabbit was anæsthetized by inhalation in the ordinary way, and died suddenly during the operation. On opening the body the lungs were found florid, and without trace of asphyxia; the auricles of the heart continued to contract for an hour after death; the peristaltic action of the intestines and bladder continued also with tolerable vigour. Venous blood from this animal presented the same reactions as before mentioned. The next experiment was upon mice. Four of these animals were placed alive in a wide-mouthed bottle, and a few drops of chloroform poured into the bottom of the vessel. This speedily caused a great excitement among them, and they soon after died. The examination of their bodies showed the same signs as in the rabbit. The brain was also normal. Another rabbit was anæsthetized by the lungs, and the crural vessels of the right leg exposed and carefully watched during the whole process of inhalation, but without there being any evidence of change in the colour of the venous or the arterial blood. In this animal also an attempt was afterwards made to induce insensibility by the rectum, but without success. The chloroform was in this case mixed with water, and the intoxicating effect produced was greater and continued longer than in the former. The temperature was also apparently lowered, although no exact observation by the thermometer was made. Duméril and Dumarquay have stated that the temperature is lowered in anæsthesia, and under the influence of ether and alcohol, distinguishing the effects of these agents from common narcotism, as by laudanum, in which the temperature is raised. This last rabbit died after a few hours, and the *post-mortem* appearances showed that death had been occasioned by acute peritonitis. Here, too, there were no signs of asphyxia, the lungs being of a bright rose colour. In the liver was found a cyst, containing a white putty-like mass, which, under the microscope, showed beautiful oval-shaped cells containing a round nucleus, with several, generally three, oval nucleoli. These, Dr. Bennett informed me, were entozoa. The action of chloroform on them was curious; the nucleus swelled up so as to fill the cell, while in another part of the field were seen cells floating empty, and nucleoli floating about in threes, joined by filaments. Hence, it seemed as if the nucleus had alone been dissolved, a curious fact when taken in connection with the solution of the red globules of the blood, these being also considered as nuclei.

The above experiments were all subsequently confirmed by a committee of the Royal Medical Society, by whom it was also observed that chloroform dropped upon the intestines and bladder caused violent peristaltic action, and that dropped upon the heart, while that organ was contracting, it caused a cessation of the pulsations until it had all evaporated, having a temporary paralyzing effect on that organ.

From the above experiments I am inclined to think that chloroform does not act by asphyxia, and that, when this does occur, it results from the manner of the administration; that its action is directly upon the nervous centres, first upon that part connected with the perception of sensation, and lastly on the spinal cord, or generator of motive force; that although it arterializes the colour of the venous blood out of the body, I have not yet been able to observe the same effect in the body; and that, on the other hand, the arterial blood is in no way affected in colour by its inhalation.

Dr. Bennett referred to a report on the action of chloroform drawn up by himself, and printed in the *Transactions* of the Edinburgh Medico-Chirurgical Society about the time when chloroform was introduced as an anæsthetic. (*Monthly Journal*, Jan. 1848.) The results of the experiments there detailed were similar in some respects to those of Mr. De Chaumont.

Dr. Mathews Duncan remarked, that rabbits were not good subjects for experiments with chloroform, on account of the rapidity with which fatal effects succeeded the anæsthesia. From recent trials, he was convinced that chloroform introduced into the stomach could produce anæsthetic effects.—*Monthly Journal of Medical Science*, May, 1853.

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5. *Confervæ on the Pleura.*—Dr. Gairdner exhibited to the Edinburgh Physiological Society a portion of tubercular lung, in which perforation had probably taken place, establishing pneumothorax. In the pleural surface were developed a large number of white circular deposits, varying in size from extreme minuteness to $\frac{1}{8}$th of an inch diameter, and extending about $\frac{1}{16}$th of an inch into the substance of the lung. Under the microscope, they presented a structure of the lowest fungoid type, consisting of a mass of very minute oval bodies, sometimes arranged in linear groups of three or four, and insinuating themselves between the fibres of the original tissue. After remaining in contact with a portion of kidney for two hours, similar deposits were found on its surface; but on farther exposure for several days, to air and moisture, they were observed to have undergone no change.

Dr. Bennett remarked, after examining the preparations, that the vegetable growth now exhibited was the most simple in its formation ever yet described, and was exceedingly interesting in a histological point of view.—*Monthly Journ. of Med. Science*, May, 1853.

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6. *Trichina Spirales.*—Dr. W. T. Gairdner exhibited to the Edinburgh Physiological Society specimens of trichina spiralis in the pectoralis major and muscles of the thigh, of a man, æt. 60, who died after an injury, apparently from purulent infection of the blood. Nothing was known of his previous history as regards the muscular system.

The parasite was found in all the voluntary muscles examined, and generally in all the muscles having striated fibre, except the heart. Several of the worms were found in the recti muscles of the eyes, and in the constrictors of the pharynx, as well as in the upper part of the œsophagus. The cysts inclosing the parasite appeared to be disposed in the interstices of the muscular fasciculi, which were in no case observed to be subdivided by the foreign body. The cysts were almost universally quite opaque from calcareous matter, so that the contained worm could only be seen after steeping the fibre in dilute muriatic acid. Surrounding the spindle-shaped extremities of the cysts, there was seen, almost invariably, a number of rounded yellowish vesicles, having the character of fat vesicles of very small size. The muscular fibres, although rather dry and pale to the naked eye, presented nothing unusual under the microscope.

The structure of the parasite has been carefully studied by various members of the Society. Dr. G. referred to Dr. Sanders and Mr. Kirk for a description of some points in more detail. His own observations had borne out generally the descriptions of Owen.

The animal was evidently a nematode worm, without any very distinct internal organs, and spirally coiled up within a double cyst, of very constant appearance and form. Dr. G. said he had not been able to detect more than two layers in the cyst; but it was possible the inner layer (which according to his observations, was of considerable thickness and transversely nucleated) might have yet another thin hyaline membrane on its internal aspect. Both layers of the cyst were spindle-shaped externally; but the cavity in which the worm floated was quite spherical, and filled with a granular matter. The whole appearance of the parasite was such as seemed strongly to bear out Owen's view, that it was merely the first stage of an animal destined for farther development. Dr. G. thought it very probable that the muscle was only the hotbed of ova, which, for their development into perfect animals, required some other habitat. Considering it to be not unlikely that this farther development of trichina might take place in the intestinal canal of some carnivorous animal, Dr. G. had sent specimens of the muscles of this man, in the fresh state, to Mr. Barlow, who had kindly consented to take up the inquiry, and had accordingly administered portions of the muscle to dogs and cats, which he intended to keep under notice for some time, if possible. Should any results of importance accrue from this experiment, Mr. Barlow would lay them before the Society.

According to Dr. Sanders's observations, with which those of Mr. Kirk mostly agreed, the arrangements of the cyst comprised: 1. An external cyst of fibrous tissue in which the mineral matter was lodged; it was generally of an elongated spindle-shape, but in some apparently younger cysts was more rounded. Internal to this was; 2. A tolerably thick layer of a white transparent homogeneous substance, which did not present any distinct structure; but, under the action of reagents, as hydrochloric acid, exhibited concentric marks. This substance filled the space between the outer elongated, and 3d. The inner spherical cyst, which contained a granular material, and one, rarely two, trichinæ closely coiled up. This inner cyst was much smaller than the outer one. When well seen, it presented a very finely striated appearance, which Dr. Sanders thought was owing to minute cilia, but which was considered to indicate fibres by Mr. Kirk and Dr. Gairdner.

When the granular matter contained in this inner cyst was effused, it consisted of a plasma, some granular matter, and cells, generally clear, with a single small nucleus, sometimes larger, and containing granules. Mr. Kirk thought that these cells were arranged as an epithelium on the interior of the inner cyst.

In the white homogeneous substance placed between the outer and inner cysts, there was sometimes observed, near the narrow end of the cyst, a small round body or vesicle, generally surrounded by granular matter. It was also noticed that a small cyst was occasionally attached at the spindle-shaped end of a larger one; in some examples conveying the notion that the extremity of the cyst had become elongated, and had afterwards separated to form a new one. It is, therefore, possible that, by means of the vesicle just mentioned, and the process of elongation and division, the trichinæ may be propagated, although it is obvious from the great multitudes of them, and uniformity in their appearance and stage of growth, that some general method of deposition must have taken place. The blood and the surrounding muscular texture were examined, without any traces of their ova being found.—*Monthly Journ. of Med. Science*, May, 1853.

MATERIA MEDICA AND PHARMACY.

7. *The Oil of the Jatropha Curcas, or Physic Nut, as a Purgative, and the Oil and Leaves as a Counter-Irritant.*—Various physicians have at different times made trials with the expressed oil of the jatropha curcas, in the hope that they might be able to find it a useful purgative; and recently the inquiry has been renewed. A brief summary of the information which we possess on this subject may, in these circumstances, prove interesting to our readers.

All experimenters agree in admitting the purgative properties of the oil; but a remarkable disparity of opinion exists as to the *degree of potency*, and the *uniformity of the effects* which it causes.

The jatropha curcas belongs to the Euphorbiaceæ. In Jamaica, the tree, as well as the fruit, goes by the name of *physic nut*, by which name it is likewise described by Christison and others, in treating of the medicinal plants of the family. The fruit is also known as the *nux cathartica Americana* and *nux Barbadensis*. The fruit is a violent irritant poison, and numerous cases of accidental death occur in the countries where the tree grows, from children picking up and eating the seeds, as three or four are quite enough to prove fatal. "The oil (*Oleum Jatrophæ Curcadis, seu Oleum Infernale*)," says Pereira, "is analogous in its properties to croton oil. It is occasionally used as a drastic purgative. In India, it is used for lamps." Guibourt obtained a purgative oil from seeds described as often rancid; but he must have met with damaged specimens from South America. Seeds gathered at one of the Cape de Verd Islands were examined by M. Leconet in 1850. Under pressure, they yielded 20 per cent. of a coloured oil, of which ten or twenty drops were enough for a dose. (*Arch. Gén.*, Jan. 1853.) A medicine of middle power, between castor-oil and croton-oil, seems thus to have been obtained. Dr. Christison, in his *Dispensatory* (third edition, 1848), says that he has found, from many experiments, that one sample, expressed from Barbadoes seeds, acted precisely like castor-oil in the dose of ten, fifteen, or twenty drops; but that another, from Jamaica seeds, sometimes caused the same severe sickness and watery evacuations as croton-oil; and, at other times, was inert in the dose of thirty drops. The explanation of the varying results is not easily given; but we are inclined to attribute the occasional weakness or absence of purgative properties to the oil having been prepared by heat or from damaged seeds.

We have not found any particulars of the oil having been used as a counter-irritant; but it possesses rubefacient or irritant properties more or less resembling those of croton-oil. The leaves possess rubefacient powers.

In *Gray's Sup. to Pharm.* by Redwood, it is stated that "the leaves are rubefacient and discutient: warmed and rubbed with castor-oil, they are applied by the natives of India to inflammations when suppuration is wished for."—*Ass. Med. Journ.* April 1, 1853.

8. *Ointment of Mucuna Pruriens as a Counter-irritant.*—M. BLATIN proposes (*Revue Médico-Chirurgicale*, Jan. 1853) the substitution of mucuna pruriens (cowhage) for tartar-emetic or croton-oil, as the active ingredient of ointments intended to act as cutaneous irritants. The proportions are, seven grains and a half of the hairs of cowhage to an ounce of lard. The ointment must be rubbed in from ten to twenty minutes; seven or eight grains are usually sufficient. The immediate effect is the production of a sensation resembling stinging with nettles; but the burning sensation and the itching diminish during the friction, and entirely pass off in less than half an hour. The skin generally becomes covered with white flat papulæ, which soon disappear, leaving a sensation of heat. The effect is due to the mechanical irritation of the hairs. This system of counter-irritation has, we are told, produced no inconvenience; children bear it easily. The indications for its employment are the same as for the use of tartar-emetic or croton-oil ointment.

M. Blatin believes cowhage ointment to be a good medium for the endermic application of various substances, such as hydrochlorate of morphia.—*Assoc. Med. Journ.* April 1, 1853.

9. *Antiseptic properties of Iodoform; Inhalation of its Vapour in Phthisis.*—Iodoform, according to RIGHINI (*Journ. de Chim. Méd.* Feb. 1853), is possessed of remarkable antiseptic and antispasmodic properties. He tried it in a silk manufactory, by distributing vessels containing small quantities, either in powder or diffused in water, through different parts of the establishment; and he found it effectual, with the advantage, moreover, of not incommoding the work people. As a hygienic resource in hospitals, he recommends that it be employed in the following manner:—

A soft paste is made, by moderately heating sixteen parts of starch in a sufficient quantity of distilled water, and stirring them with a wooden spatula. Eight parts of iodoform having been added, the mixture will be found to be readily absorbed by filtering-paper. The paper prepared in this way is cut into strips three or four inches wide, and suspended in the wards. The iodoform slowly escapes without causing any inconvenience to the inmates. It is most freely liberated in moist states of the atmosphere. M. Righini recommends iodoform-paper for the purpose of obviating the bad smells and noxious effluvia of slaughter-houses, and also for preserving meat from spoiling.

M. Righini states that the inhalation of iodoform dissolved in ether is of great service in retarding the progress of phthisis.—*Assoc. Med. Journ.* April 1, 1853.

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10. *Butter as a Substitute for Cod-Liver Oil.*—The *Union Médicale*, for May 3, quotes the following from the *Répertoire de Pharmacie.*

Cod-liver oil is an aliment which restores and reconstitutes the tissues; in a word, it is an analeptic medicine, by the aid of which the disorganizing action of tubercle is combated. The only inconvenience attending its use is, that it is sometimes difficult of digestion. In this case, M. Trousseau substitutes with advantage for it, the following compound:—

Fresh butter	℥iv.
Iodide of potassium	gr. ¾.
Bromide of potassium	gr. iij.
Common salt	ʒss.

This butter is eaten during the day on very thin slices of bread.—*Association Medical Journal*, May 6, 1853.

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11. *Albuminate of Iron and Soda.*—In the *Bulletino delle Scienze Mediche di Bologna*, for November and December, 1852, as quoted in the *Dublin Quarterly Journal of Medical Science* for this month, M. A. Fabbri suggests a method of meeting the difficulty often experienced in administering iron in the manner most suitable to the organism, and which has led to its being given by some in the metallic or oxidized state, and by others in compounds with inorganic or organic acids. He recommends the use of a compound of albumen (white of eggs), caustic soda, and sulphate of iron. It is prepared so that each ounce contains about four grains of the albuminate, *plus* an excess of albumen and soda.—*Ibid.*

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12. *Hyposulphite of Soda and Silver.*—M. Delioux (*Bull. de Thérap.* xliii. pp. 289, 401) states that two years' trial of this substance, at the Marine Hospital at Rochefort, leads him to the conclusion that, in some cases, it may advantageously be substituted for the nitrate, as a much milder preparation. It is formed by pouring a solution of hyposulphite of soda over oxide of silver, recently precipitated by potass, until the oxide is entirely dissolved. Evaporation furnishes minute crystals of the hyposulphite of soda and silver, which are dried in a mild heat, sheltered from light. It is insoluble in alcohol, and very soluble in water, the solution being more slowly decomposed by light than that of the nitrate. Kept away from the light, its transparency may be indefinitely preserved. When quite pure, it does not discolour the epidermis or linen. It is less astringent and irritating than the nitrate, and may in several cases thus be advantageously substituted for it. It is especially in urethral discharges it has been found useful, solutions of 1 or 2 parts to 30 of water exciting less irritation than solutions of the nitrate of half the strength. He, however, usually employs it only in the proportion of ½ to 1 part to the 100 of water. He has not used it internally.—*Brit. and For. Med.-Chirurg. Review*, April, 1853.

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13. *Galactagogue and Emmenagogue Effects of warm and stimulating Applications to the Mammæ.*—Dr. J. R. Cormack endeavors to establish (*Association Medical Journal,* March 25, 1853), by the brief narrative of a few facts, the following propositions:—

1. Warmth and stimulants applied to the mammæ often act powerfully as *galactagogues.*

2. Warmth and stimulants applied to the mammæ often act powerfully as *emmenagogues.*

3. The leaves of the bofareira (or ricinus communis) and jatropha curcas act as galactagogues and emmenagogues; but not from their possessing any peculiar or specific power.

I. *Warmth and Stimulants applied to the Mammæ often act powerfully as Galactagogues.* Case I. *Milk restored to the Mammæ by hot Fomentations.*—Last month, a lady, when nursing her infant, about seven months old, was attacked with acute bronchitis of moderate severity, which was successfully treated by low diet, and tartar-emetic in small doses. At the end of four days, the bronchitis was cured; but the milk, which had previously been failing, almost entirely left the breasts. On the fifth day, from exposure to cold, she experienced a relapse of the bronchial affection. As she had been considerably weakened by the previous attack, and as the symptoms of the relapse were not sufficiently severe to justify recourse a second time to antimony, I ordered her to take a draught containing ammonia and chloroform, as an anodyne, expectorant, and diaphoretic, every eight hours; and to carry out similar intentions, I also directed a succession of pillow-cases, filled with heated moist bran, to be applied to the chest. When I saw her on the following day, after this treatment had been employed, she told me that she had profusely perspired for some hours; she was (after copious expectoration) free from cough, and pain in the chest; and, what was equally a source of pleasure and surprise to her, *her breasts had become distended with milk.* This lady was able to resume nursing, and to continue it with the assistance of a suitable diet.

Case II. *Effects of a Sinapism applied to one of the Mammæ of a lady, five months advanced in Pregnancy: effects of warmth in the same case.*—A lady was under my care for bronchitis, at the same time as the patient whose case I have just sketched. She was directed one night to apply a sinapism over the sternum, which she did; but having fallen asleep, it slipped to the side, and remained undisturbed for about an hour upon one of the breasts. For some days, this mamma was very much larger in size than the other, and its areola was also much darker. From the delicacy of this lady, and the unusual severity of the weather, I directed her to wear a double flannel jacket, and a wadded wrapper round the chest. She tells me that *the breasts are larger, and the areolæ much deeper in colour than they ever were in any of her ten previous pregnancies even at the full time;* and these conditions were established while her general health was exceedingly depressed by illness.

Case III. *Stimulating Embrocation increasing the Supply of Milk.*—A lady, though in excellent health, had a very scanty supply of milk for her infant, when it was a few weeks old. She consulted me as to the use of means to remedy this evil; and I advised her to rub the mammæ gently, every six or eight hours, with an embrocation containing a small quantity of tincture of cantharides and oil of thyme, and to sheath the mammæ very warmly in wadding. *In a few days the milk was abundant.*

Case IV. *Hot Poultices keeping up the Secretion of Milk when this was not desired.* A lady suffered, after her confinement, from a succession of abscesses and abortive abscesses in the breast. The surgeon who attended her treated her by antiphlogistic medicines, under which discipline she passed some wretched months, from mental and bodily depression, aggravated by hysterical attacks. The local affection did not seem to make any satisfactory progress; and the great obstacle to a cure was stated to be the impossibility of getting rid of the milk, in spite of saline purges being freely administered. The mammæ during the whole of the period to which I refer, had been ceaselessly treated, night and day, with hot poultices and medicated fomentations. These applications were abandoned, and a generous diet prescribed. *In a few days there was not a drop of milk in the breasts;* and the abscesses, actual and threatening, had ceased to give any pain, and had, in fact, almost disappeared.

I might refer to other cases, which I have vividly in my memory; but the above, which have occurred within the last three months, seem sufficient to establish the first proposition; viz., that *warmth and stimulants applied to the mammæ often act powerfully as galactagogues.* I need hardly add, that along with the use of such means, the regular application of an infant to the breast would greatly assist in reproducing lactation, as, according to the testimony of various authors, this stimulus has of itself proved sufficient to restore the secretion of milk, and has actually caused it to flow, not only from virgins and other women who had never been pregnant, but even from males.[1] Excitement and sanguineous turgescence of the gland is induced; and these conditions afford to the organ both a power and a stimulus to perform its previously dormant function.

II. *Warmth and Stimulants applied to the Mammæ, often act powerfully as Emmenagogues.*—Warm clothing of the abdomen and limbs, hot hip-baths, and medicines which stimulate the bladder and rectum (such as ergot, cantharides, and aloes), have undoubted emmenagogue powers in properly selected cases of retarded or suppressed catamenia; and, indeed, they constitute, in various combinations, the principal measures by which the physician usually endeavours to excite the ovarian nisus upon which menstruation depends. The observant physician knows well, that while his treatment is directed to the uterus through the ovaries, the effects produced upon the mammæ are generally very striking, and the first indications which he expects to find of the uterus being roused from its torpor are turgescence and tingling of the mammæ; phenomena which also usually precede normal menstruation. It is equally true, though not so familiarly understood, that measures which act directly and primarily upon the breasts, such as warm clothing to the bust, and the application of stimulants, not only cause them to swell and throb, but likewise stimulate the ovaries, and cause the menses to flow. The practice adopted by some practitioners, of applying leeches to the mammæ in amenorrhœa, owes its efficacy to fomentations used, and the irritation of the bites.

In 1834, Dr. Charles Patterson published, in the *Dublin Journal of Medicine*, a paper in which he described the emmenagogue power of irritation of the mammæ by sinapisms. This paper fell into my hands at the time of its appearance, when I was an Edinburgh dispensary pupil, practising, I believe, with more zeal than knowledge, and using, often with more confidence than discrimination, that plan of treatment which I had seen most recently or most enthusiastically recommended. In these circumstances, I successfully employed Dr. C. Patterson's method in amenorrhœa. The beneficial results which I then obtained, produced a very strong impression upon my mind as to the efficacy of irritation of the mammæ in producing menstruation; and the experience of nineteen maturer years has confirmed this impression.

As Dr. Patterson's facts do not seem to be referred to by subsequent writers, and as the practice which he recommends is so little noticed by authors, I subjoin an extract from his paper. Dr. Patterson writes as follows:—

"Mary Reardon, aged 24, of moderately corpulent habits, was admitted into the Rathkeale Hospital on the 10th of August, 1832. She laboured under slight synochial fever, which in a few days yielded to venesection and purgatives. On the 19th of August, symptoms which were considered of an hysterical character presented themselves, with pain in the upper and outer part of the right side of the chest. For the latter affection, a small sinapism was prescribed; but from inattention of the nurse, it was made so large that it covered a considerable portion of the mamma. The sinapism remained on for half an hour. At the visit on the following morning, the 20th August, Reardon complained that the right breast was exceedingly painful—the pain being very different in its character from that which she had before experienced. On examination, the whole side of the chest was found considerably swollen: there was slight diffused redness of the skin: and though the mamma itself was enlarged to four or five times its natural bulk, yet there was no circumscribed hardness, nor any tendency to suppurative inflammation. On the 21st August, the right mamma and adjoining parts of the chest were found much more enlarged than they had been at the preceding visit. The left mamma and side of the thorax were unaffected; and it was announced by the nurse that the catamenia had that morning appeared, and were then in considerable quantity. This discharge, which, as the patient stated, had been for two years and a half wholly suppressed, continued to flow for two days; then it began to decline, and with it the tumefaction of the mamma gradually disappeared." (Pp. 193–194.)

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[1] Cases in which men have suckled children are on record. The essential character of the gland is the same in both sexes.

Dr. Patterson's attention having thus accidentally been directed to mammary irritation as an excitant of the torpid uterus, he resolved to try its efficacy when a suitable opportunity presented itself. His next case is thus described:—

"Catherine Power, aged 19, applied to me on the 14th September 1832. She complained of headache, languor, loss of appetite, and inability to attend to her usual business, that of a servant. She stated, that about the middle of April, the menstrual discharge being then present, she incautiously exposed herself to cold in washing clothes at a river. The catamenia then suddenly ceased, and had not since returned; and from that period she had been constantly subject to ill health. She had consulted different medical gentlemen, and taken a great variety of medicine, with little advantage. I directed that the clavicular half of the right mamma should be covered with a sinapism. It was allowed to remain on for thirty minutes; and on visiting her in six or seven hours after its removal, I found the whole right breast considerably swollen, hot, and painful. The next morning, the enlargement of the mamma was very much increased, the tumefaction having extended to the clavicle and axilla of the irritated side. There was no hard circumscribed or prominent tumour, but a painful, diffuse, elastic distension of the mammary gland, and surrounding cellular substance. On the evening of the day next succeeding the application of the sinapism, this poor girl with much joy reported that the catamenia had appeared. The flux having continued for two or three days in moderate quantity, she then found herself greatly relieved of the headache and other most distressing symptoms; and in a week her health was so far restored, that she ceased to require any farther attendance." (Pp. 194–195.)

I am disposed to regard irritation of the mammæ as a convenient and rapid agency for the induction of menstruation; but one which must neither be rashly nor indiscriminately employed. In numerous cases it may be used alone; but, generally speaking, it may be advantageously combined with other means. In cases of acute suppression of the menses, I am in the habit of prescribing, along with sinapisms to the mammæ, warm clothing of the bust and limbs, and the hot hip-bath every twelve hours.

In anæmic amenorrhœa, it need hardly be stated, that irritation of the mammæ is only calculated to do good in conjunction with, or after a course of, a metallic medicine, such as some of the preparations of iron, manganese, or arsenic. In such cases, where we can trace a monthly ovarian nisus, though there be no catamenial flow, these periods should be seized as the appropriate times for using the sinapisms, and then also we may sometimes, by venturing a few doses of forcing medicine, such as cantharides and ergot, bring the case at once to a favourable issue.

The emmenagogue effects ascribed to the application of the leaves of the ricinus communis, by Drs. McWilliam and Tyler Smith, can easily be understood, when we remember their irritative character, and the consequences which we have found to be induced by irritation of the mammæ caused by other stimulants.

"When the breasts," says Dr. McWilliam, "are small and shrivelled, the plant is said to act more upon the uterine system, bringing on the menses if their period be distant, or causing their immoderate flow if their advent be near."

In the subjoined case, related by Dr. Tyler Smith, the effect produced may have been owing partly to the application to the breasts, and partly to the application to the genitals.

"I have used," says Dr. Tyler Smith, "the remedy in a case of scanty menstruation of a remarkable kind. Owing to exposure to marsh malaria some years ago, the patient had scarcely a sign of coloured discharge at the usual catamenial periods. She used the infusion of the leaves of the red bofareira at the date of her period, applying the infusion and leaves to the breasts, and the vapour to the genitals, with the effect of producing, in two days, a considerable flow of the catamenia."

III. *The Leaves of the Bofareira do not produce their Galactagogue and Emmenagogue Effects in virtue of any specific Property.*—The facts which have been already cited, point out pretty plainly that the effect of the leaves of the bofareira does not depend upon any specific property possessed by them; but simply on the determination produced by warmth and the irritative juices which they contain. That a good deal depends upon the mere warmth of the poultices, is sufficiently obvious. I have seen frequent examples in my own practice. I will not, however, enter into the particulars of these cases; but will conclude by mentioning two circumstances, which thoroughly corroborate this view.

In the *Boletin de Medicine, Cirujia y Farmacia* of 14th November, 1852, a short abstract was given of Dr. McWilliam's paper. In the same journal of the 19th December following, a correspondent writes to say, that in consequence of the notice which had appeared of Dr. McWilliam's paper, he had used fomentations of fig-leaves (*hojas de higuera*) to promote the secretion of milk in three cases, in which it had wholly or nearly ceased. In all the cases the benefit was decided. The Spanish practitioner wrote to confirm the practice recommended by Dr. McWilliam; but he has in reality, by using the wrong leaves, shown very clearly the galactagogue effects of poultices and fomentations, even when destitute of stimulating properties. I may likewise here state, upon the authority of a Spanish lady (with whom I conversed on this subject a few days ago), that in Cadiz, women are in the habit of bringing back the milk to their breasts after it has left them in consequence of weaning the child, or of any other cause, by means of drinking an infusion of the wild lupin (*altramuz*), and applying to the mammæ fomentations made with the same plant. This plant has no stimulant or irritative quality, and the efficacy of the poultices made with it must, as in the case of the fig-leaves, depend simply on heat and moisture, as in a common poultice. The internal use of the infusion might be dispensed with.

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14. *Fomentations of Digitalis in certain kinds of Ascites.*—Dr. RAYMOND FALOT has published in the *Revue Thérapeutique du Midi* three cases of inflammatory ascites in which diuretics were not well borne by the stomach, and where fomentations with a decoction of digitalis-leaves produced marked action of the kidneys, and absorption of the fluid effused in the peritoneum.

The first case is that of a girl 24 years of age, who, after severe wetting, was attacked with subacute peritonitis and consequent ascites. Nitre and powdered digitalis had very little effect, and tapping to twelve quarts took place. As the liquid reaccumulated, fomentations were made with a decoction of two ounces of digitalis to a quart of water boiled down to a pint. The liquid was applied by means of compresses soaked in it, and covered with oiled skin to prevent evaporation. The kidneys acted very powerfully, and the effused fluid became completely absorbed. The same means also succeeded two years afterwards when the patient suffered again from ascites.

The second case refers to a boy 8 years of age, who had ascites after intermittent fever. Both the syrup and powder of digitalis were ill borne; the fomentations were used as above described, and the effusion disappeared, whilst the kidneys and skin were acting powerfully.

Third case.—A man, 50 years of age, suffered from ascites after a very severe attack of gastric fever. No sort of medicine could be borne; the digitalis fomentations were resorted to, and the same favourable results as in the previous cases were obtained in a few months. Dr. Falot states that he does not wish to give his mode of treatment more importance than it deserves, but that he was much struck with the coincidence between the use of the fomentations and the increase of the renal and the cutaneous secretions. In one of the cases, frictions with the tincture of digitalis had been used without success. The fomentations will certainly be worth a trial when the usual diuretics cannot be given by the mouth. The leaves should not be more than one year old.—*Lancet*, May 7, 1853.

15. *Chloroform, and its Administration.*—Mr. W. Martin Coates strongly cautions (*Lancet*, May 28, 1853) the profession against suddenly saturating the patient's system with the vapour of chloroform, and states his conviction that the dose usually recommended (one drachm at intervals) is unnecessarily large, and that to be safely administered it must be used in much smaller quantities. Mr. C. has found 15 minims of chloroform inhaled every minute to be a sufficient dose for an adult in from 3 to 6 doses. Under fourteen years, 10 minims is sufficient; under six years, 5 minims; under a year, three to five minims.

Mr. Coates's manner of administering chloroform is as follows:—

"The patient being ascertained to be free from affections of the brain, heart, and inflammatory affections of the lungs, &c., is freely purged the day before the operation, and his diet is limited on the morning appointed. Any article of clothing confining the throat or chest is let loose. The patient is desired to raise one hand, and to keep it raised as long as possible. Five minims is first given in Dr. Sibson's inhaler, to diminish the sensibility of the mucous membrane of the larynx. After a minute has elapsed, fifteen minims are added, and repeated every minute until the hand drops, and is not moved on the patient's being desired to raise it. I then commence the operation.

"The person managing the chloroform watches the pulse and respiration. On the former becoming weak, or the latter stertorous, the inhalation is discontinued until they become normal. On any indication, on the other hand, of sensibility returning, ten minims are added.

"It would seem unnecessary," Mr. C. remarks, "to insist upon the necessity of using so potent an agent in the smallest possible quantity consistent with success. What intelligent practitioner would give an unnecessarily large dose of opium, calomel, or arsenic? The same rule applies to chloroform, and the more cogently, that when danger arises it comes so suddenly that there is but little time for the application of treatment.

"Chloroform inhaled in small quantities of five, ten, or fifteen minims, is a general stimulant, and the first two or three doses, of fifteen minims, usually renders the pulse quicker and fuller. Whenever the pulse sinks in power even slightly, the inhalation is too rapid, and the chloroform is accumulating too quickly, or has been continued too long. When this is the case, it should be discontinued, for it is better to have an unsteady, or even a suffering, than a dying patient.

"In natural labour, I administer chloroform when the patient desires it, and circumstances do not forbid it. In operative midwifery, I recommend it. Its effect is to diminish uterine action, and to relax the os uteri and external parts; so that what is lost in one direction is gained in another. Of course, it destroys all voluntary effort. In natural labour, I never commence its use until the latter severe pains begin. I cannot approve of the keeping a patient for many hours under its influence. I think it desirable in these cases (of natural labour) to act upon the sensorium only, avoiding even more carefully the affecting the true spinal marrow, than in operations; this I do by giving first five minims, then, after the lapse of a minute, ten, and, if required, fifteen minims every succeeding minute until the patient becomes unconscious; an occasional ten minims given when consciousness threatens to return, is sufficient to keep up the then existing freedom from suffering without diminishing the uterine contractions to too great a degree. Patients who have been delivered under chloroform rarely suffer from after-pain; so much is this the fact, that I seldom have to give the usual opiate after such cases. The soreness of the labia and perineum after labour is much diminished by the ease with which they yield, under the influence of chloroform, to the pressure of the head of the child. I am now in actual attendance on a lady, whom I delivered under chloroform at the birth of her last child, and who has requested me to pursue the same practice in her coming confinement, upon the ground that she had suffered so severely from soreness of the labia in all her confinements previous to her last, but had not done so then.

"I believe that where this agent is used in the manner, and with the precautions I have recommended, no evil consequences will occur; but if it is administered in large doses, death will occur as in operations; and even where that catastrophe is avoided, labour may be indefinitely prolonged. In operative midwifery, I administer the same quantities as in other operations, and I once kept a woman under the influence of chloroform during an hour and a quarter without the slightest evil consequences.

"In no case have I seen an unfavourable result, and in one case only have I been obliged to abstain; and as this case indicates a cause of danger, not, I believe, noticed by others, and leads to an improvement in practice, I will relate it. I was about to use the forceps in a woman pregnant for the first time, aged upwards of forty years, and having a contracted pelvis. I placed fifteen minims of chloroform in the apparatus, but immediately on my bringing it to the mouth and nose, she had a sense of suffocation and croupy inspiration, with venous suffusion of the countenance, which symptoms forced me to desist. The chloroform had evidently excited spasm of the muscles, closing the glottis, and I doubt not, had I persisted, my patient would have died asphyxiated. Since this case I have commenced, as above stated, with five minims, and then proceeded to ten or fifteen. This plan has succeeded well, by gradually diminishing the excitability of the nerves of the mucous membrane of the larynx; it also prevents that painful sense of constriction about the throat and chest, which, I remember, was in my own case very unpleasant.

"I think it right to state that, in experienced hands, a drachm of chloroform may be placed in the apparatus, and, by carefully regulating the valves, a quantity not exceeding ten or fifteen minims, may be administered; but a proper apparatus is not within the reach of all. Therefore a plan was still a desideratum, by which a person only moderately skilled may be enabled to administer it safely and effectually. Such a one I feel that I have proposed. Ten minims every minute will frequently produce complete insensibility to pain, and in cases where absolute quiet is not requisite, or where there is any reason to fear syncope, such doses are the best, as they raise the pulse, and in that way would diminish the danger from loss of blood, or even from fatty degeneration of the heart. Indeed, I think that where ordinary syncope occurs from other causes, and where the patient cannot swallow ordinary stimulants, an inhalation of five or ten minims of chloroform might prove beneficial as a general stimulant.

"Chloroform in repeated doses of fifteen minims is exceedingly useful in diminishing excessive uterine action, where, from its excess, or from rigidity of the external part, or from both, there is reason to fear rupture of the uterus or laceration of the perineum. It is in its action, when given in the above quantities, the antithesis of the ergot, and is of course useful in directly opposite cases.

"M. C. is satisfied that the handkerchief, piece of lint, and sponge, are inaccurate and dangerous chloroform inhalers. By them sometimes more, sometimes less is given than is intended or required. In truth, nobody can know what the quantity inhaled is; so much depends upon how the handkerchief is folded, what is the shape of the sponge, and the distance at which they are held from the mouth and nose."—*Lancet*, May 28, 1853.

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16. *On the Recorded Deaths from Chloroform.*—Dr. Crisp read before the Medical Society of London, the following interesting communication:—

Although we may not agree respecting the propriety of the almost general administration of chloroform in surgical operations and during labour, all, I think, must admit the advantage of collecting, from time to time, the statistics of the deaths from this agent; and the period, I believe, is not far distant when the question respecting its general utility will receive the serious consideration of the medical profession. The benefits attending the administration of chloroform in many instances are undeniable, but the important inquiry has yet to be instituted, as to the preponderance of the good over the evil? and especially as to the consecutive influence of anæsthetics upon the constitution. In September, 1850, I had collected thirteen deaths from chloroform, beginning with the first at Newcastle, 1848. In August, 1851, the table had increased to sixteen, and, in February, 1852 (as stated at this Society), to twenty cases. It is now my intention to add to the former statistics the deaths that had occurred before their publication, and were accidently omitted, and those fatal cases which have been made public since the period alluded to. I may premise that I have reason to believe that many deaths, both immediate and consecutive, have occurred in this and other countries, from the use of chloroform, which are at present unknown to the profession. It is also fair to state that I was early prejudiced against the general employment of anæsthetic agents in consequence of having witnessed (in some cases) their fatal influence upon the lower animals; but more especially from having assisted, in 1847, at the autopsy of a gentleman, who underwent a tedious operation, under the influence of ether, by a late eminent surgeon. The patient had had one attack of asthma previous to the use of the knife. He died a few days after the operation, of congestion of the lungs, and apparently he never recovered from the effects of the ether. The following are the names of the countries and the places in which the forty-two recorded deaths occurred which form the present tables, so that the cases, which are published in the British and Foreign journals, can be referred to if necessary: England—London: Mr. Robinson, Stepney Union, *Dreadnought* Hospital-ship, Guy's, St. Thomas's, St. George's, St. Bartholomew's, and University Hospitals. Newcastle (the first case, January, 1848): Sheffield, Leeds, Shrewsbury, Chipping Norton. Scotland: Glasgow, Govan, Melrose, Edinburgh (case alluded to by Professor Simpson). Ireland: Cavan Infirmary. Australia: Melbourne, Ships *Mauritius*, *Hydrabad*. America: New York, Cincinnati, Boston (2), Chelsea, Newhaven, Massachusetts. France: Paris (2), Lyons, Langes, Strasbourg, Boulogne, Avignon, Orleans. Other countries: Bruges, Ulm, Stockholm, Berlin, Hanover, and Madrid. Besides these examples many could be found that might fairly be classed amongst the above; thus, it is stated, in Dr. Snow's paper, in the *London Journal of Medicine*, 1852, that three persons died during the French revolution, under the influence of chloroform; but, as the operations were of a grave character, Dr. Snow, perhaps with justice, excludes these cases. It must be observed also that if I had included the deaths from ether, the tale would have been greatly increased. I could also add many examples in which the life of the patient had been in great jeopardy from the use of this agent, but two or three will suffice. A strong, healthy butcher, aged thirty-seven, at St. Bartholomew's Hospital, when about to be operated upon by Mr. Stanley, inhaled chloroform for twelve minutes, and this not producing the desired effect, some was dropped upon lint, and applied to the nostrils; the pulse ceased at the wrists, and the patient appeared to be moribund, but by the speedy use of ammonia, cold air, and blows upon the epigastrium, the man recovered. The most instructive instances of this kind that I have met with are those related by Dr. Charles Dufour (*L'Union Médicale*, March, 1852). M. Ricord castrated a strong, healthy man, aged thirty-seven. Chloroform was administered on sponge, and the man suddenly, as in Mr. Stanley's case, appeared to be dying. M. Ricord immediately applied his mouth to that of the patient, continued artificial respiration in this manner for some time, and saved the man's life. M. Ricord stated that four similar instances had occurred to him, in which he successfully adopted this mode of treatment; but in another case, in which he did not pursue it, the patient died. But the question of vital interest is that respecting the ultimate effects of this agent. If one thousand patients are operated upon under the influence of chloroform, and one thousand women inhale it during labour, will these individuals be afterwards in as healthy a condition as the same number of persons who, under the like circumstances, have not been chloroformed? This is a question now difficult to answer, but it is one that deserves to be seriously considered. Does the avoidance of pain or of nervous disturbance compensate for the danger, immediate or consecutive, that may attend the administration of chloroform? In a report made to the Academy of Medicine by M. Jules Guèrin (*Gazette Médicale*, 1853), relative to consecutive deaths from chloroform, M. Guèrin says, "he believes that these cases are very numerous, and that, on making inquiries of many surgeons both in Paris and in the provinces, most of them have confessed that they have had occasion to regret the occurrence of these accidents." Mr. Warren, of Boston, in his address to the Medical Association of Cincinnati, 1850, remarks, "that he and his colleagues, after giving chloroform a fair trial, were induced to return to the employment of ether, and he advised the general disuse of chloroform." But the fact which I am again especially anxious to impress upon the members of the Society is the danger arising [illegible] the cumulative action of chloroform; that this agent may, unobserved, be producing its poisonous effect, and that the addition of a few particles may so disturb the balance of the system as to destroy life. The table abounds with cases where the second administration of the drug, at a longer or shorter time after the first, has instantly produced a fatal effect. Let me give two examples amongst the many that might be quoted. In the sixth case in the table, half an ounce of chloroform was first used, and the chloroform repeated after two hours, when death instantly occurred. In the thirty-sixth case mentioned in the *Revue Thérapeutique du Midi*, February 7, 1852, a man had his thighs amputated for a gunshot wound. The operation was completed without any untoward symptom, but the patient, as he felt a good deal of pain in the stump, requested to be again chloroformed. After a few inspirations he began to vomit, recovered from his state of insensibility, and died after three hours, slight reaction only having taken place. I have been anxious to bring this matter before the Society, because I think that many gentlemen who are considered high[1] authorities upon this subject have taken too partial a view of the question—an error many will think that I have myself committed; but if my remarks tend in any way to produce more caution in the administration of this powerful agent, my object will have been fully answered. The time has gone by when special pleading will long avail on this or any other subject connected with medicine; and if inductive reasoning is to be allowed in such inquiries, I think that I have obtained a sufficient amount of evidence to bear out the following conclusions: 1st. That, judging from the experiments that I have made upon the lower animals with chloroform, this agent will occasionally, and without apparent cause, produce sudden death; and that it cannot be administered to the human subject under any circumstances without some amount of danger, seeing that the fatal cases have generally occurred in young subjects free from structural disease. 2d. That, taking into account the ages of the patient, five of which are over forty, and twenty under thirty years of age, and coupling this fact with the circumstance that fatty degeneration of the heart is comparatively unfrequent in the young, it is a fair deduction, that this condition of heart, although detected in a few cases (three), had but little, if anything, to do with the cause of death. 3d. That chloroform acts directly and especially upon the nerves of the heart. 4th. That its administration during parturition is attended with less immediate danger, in consequence of the peculiar excitability of the cardiac nerves, but especially on account of the increase of the conservative power of the system, which often, at this crisis, under the most disadvantageous circumstances, enables nature to accomplish the great end. 5th. That the repetition of the dose, or its long continuance, has more influence, as regards the fatal result, than the mode of administration or the quality of the drug. 6th. That the deduction of the most practical importance is the fact that this agent is cumulative, that its fatal effects in many instances have not been exhibited until the administration of a second dose, and when the influence of the first was unapparent.—*Lancet*, June 4, 1853.

MEDICAL PATHOLOGY AND THERAPEUTICS, AND PRACTICAL MEDICINE.

17. *Pathology of Inflammatory Gangrene.* By J. H. BENNETT, M.D., Prof., &c.—Occasionally, a very large amount of blood plasma is thrown out, consti-

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[1] Professor Simpson, of Edinburgh, has lately stated in a medical periodical "that the druggists of Edinburgh have sold, during the last four or five years, enough chloroform to the medical practitioners and the public to produce anæsthesia in one or two thousand separate instances. Some of the midwives use it in their own practice, and one told Dr. Simpson that she had used it in about fifty cases."

tuting a violent inflammation; a greater or less number of capillaries are also ruptured, and blood-corpuscles are more or less mixed with the *liquor sanguinis* exuded. The exudation thus formed compresses the part, so as to obstruct the bloodvessels, and prevent the continuance of any circulation in it. Under these circumstances, instead of forming a blastema for the production of new structures, it undergoes chemical changes, which induce in it decomposition, and the part is said to be mortified, or to be affected with moist gangrene. This change commences first in the blood extravasated, which becomes of a purple colour more or less deep; the corpuscles break down and become disintegrated; their hematozine dissolves and colours the serum; and, should the exudation have coagulated, it forms brown, rust-coloured, purple, or blackish masses. An acid matter is now formed, which, acting on the neighbouring tissues, produces fetid gases that are abundantly given off from the affected part. Sulphuretted hydrogen is evolved, which causes the blackish sloughs usually observed in such cases, and discolours silver probes and the preparations of lead. After a time, the elementary tissues surrounding or involved in the exudation become more or less affected. The transverse striæ in the fasciculi of voluntary muscles become first pale, and are then obliterated. Cellular tissue, fat, and other soft substances lose their connection, and fall into an undefined granular mass. The tendons and fibrous tissue retain their characteristic structure for a long time after the other soft parts have been reduced to a softened pulp. The bones resist the action longest, but at length become rough, soft, and commencing externally, are more and more broken down, and reduced to the same pulpy consistence and granular structure as the surrounding parts.

As the tissues thus become broken down and fluid, they are discharged from the system in the form of an ichorous matter, which, examined microscopically, presents numerous granules, imperfect or broken-down cells, blood-corpuscles, and fragments of filamentous tissue or the other structures involved. If the morbid action be seated in the subcutaneous tissue, the skin soon becomes involved, and an opening is formed, which rapidly increases, and gives vent to the discharge. In a similar manner, gangrene of internal organs, by destroying the intermediate parts, at length enables the discharge to reach the surface, or to find its way into the excretory passages, such as the bronchi, the intestinal canal, the meatus auditorius, &c. In this manner, life may be endangered by the destruction of organs necessary for its continuance, by the exhaustion resulting from the discharge, and sometimes by the absorption of the ichorous matter, which, on entering the circulation, acts as a poison to the economy.

It may be asked, whether inflammation and mortification are similar processes? whether the latter is only a greater intensity of the former? or whether, when mortification follows inflammation, it is dependent on other circumstances, such as a peculiar state of the atmosphere favouring the decomposition of the exudation poured out? In order to answer any of these questions, we must distinguish between mortification arising from a variety of circumstances, and an inflammatory gangrene, properly so called, the which is undoubtedly the rarest of all the terminations of inflammation. We frequently see mortification produced by the application of chemical or mechanical agents, which directly destroy the tissues. It also arises from severe and complicated injuries, in which arteries leading to the portions of structure affected have been divided or crushed. In old persons, it follows obstruction in the bloodvessels, or is dependent on circumstances not yet ascertained. In none of these cases is it caused by inflammation. But when stasis of the capillaries is produced to a considerable extent, followed by the exudation of a large quantity of blood-plasma, which, instead of passing into organization, undergoes the changes previously described, then an inflammatory mortification, properly so called, is produced. We see this take place after burns, a long exposure to frost, and in certain cases of erysipelas, Here the amount of exudation is considerable, the pressure caused by it extreme, the obstruction to the circulation in the neighbouring parts correspondingly great, and these, as well as the exudation itself, die. In this sense, therefore, it may be said to depend on the severity of the inflammation. This, however, is not the case in the sense of those who consider the adhesive, suppurative, and gangrenous inflammations as different stages of one process. Suppuration, as we now know, has no connection with adhesion; it is opposed to it; nor is it in any way related to mortification, which must be considered as a primary alteration of the exudation. The vitality is lost, and instead of passing into organization, it at once becomes subject to the chemical laws of dead matter, and undergoes putrefaction.

Now, in order that organic substances should enter rapidly into putrefaction, it is necessary that they find sufficient oxygen and water for all their carbon to be transformed into carbonic acid, all their hydrogen into water, and all their azote into ammonia. When these conditions are not completely fulfilled, transition or intermediate substances are formed. When there is not sufficient oxygen, for instance, an excess of carbon is produced in the debris, and hence the black colour observed in mortified parts. There is also often developed a species of contagion, which causes parts undergoing decomposition to excite it in neighbouring ones (eremacausis of Liebig). This does not take place in dry gangrene. Thus, a gangrenous stomatitis (Cancrum oris) destroys, in a short time, a large portion of the soft parts of the lips and face; noma destroys the genitals of young female children. This appears to depend upon the quantity of destructive fluid or mixture generated in the process. A dry gangrenous foot, on the other hand, often requires several weeks before it has produced sufficient decomposition to be detached, and reached all the tissues to the bone.

But there are sometimes external causes which seem to produce mortification, independent of the amount of exudation, or the rapidity with which it is thrown out. During the summer of 1836, I watched with great care the progress of a sloughing gangrene, prevalent, not only in the infirmary of Edinburgh, but throughout the city generally. All kinds of sores and wounds were affected by it, even those of a specific nature, such as chancres, &c. Neither youth nor age was exempted from it. It affected not only those who were debilitated from disease by intemperance or by diet, but those also in the most robust health. Thus, a servant-girl, aged 16, who had never suffered from illness, and of a robust constitution, fell down upon some glass bottles, and slightly cut her left thumb. A week after, she entered the infirmary with an ulcer the size of a shilling, filled with a brownish-black slough, discharging a fetid and sanguineous fluid. In this, as well as other cases which occurred, it became impossible to attribute the gangrene to the violence of the injury, the amount of exudation, a state of cachexia, or indeed to any circumstances connected with the individual. It could not arise from contagion, as it originated simultaneously in different parts of the city in individuals who had no communication with each other, was not confined to the infirmary, and the system of dressing wounds there precludes the possibility of this explanation. We are, therefore, compelled to ascribe the cause to something without.

Most writers have noticed the connection between a certain state of the atmosphere and the prevalence of hospital gangrene and of dysentery. Its more frequent occurrence in summer and autumn—that is, at a period of the year when increased temperature favours the decomposition of animal matter. The good effects which result from change of air, when every kind of treatment fails, still farther point out its origin from changes occurring in the atmosphere. These probably depend upon some electrical state not yet explained, which powerfully influences the chemical combinations of the diseased part, and prevents cell growth. At least, such is what we may reasonably suppose from all the facts with which we are acquainted on this head. It is similar to blight among vegetables, the potato disease, and so on.

18. *Curative Treatment of Phthisis Pulmonalis, and the Modus Operandi of Cod-liver Oil.* Professor J. H. Bennett read an interesting paper on this subject before the Edinburgh Medico-Chirurgical Society (Feb. 2, 1853), in which he entered at considerable length into an exposition of those facts, which, in his opinion, proved the curability of tubercle. He considered its pathology to be, first, a derangement of nutrition, dependent on an excess of the albuminous, and a deficiency of the oily constituents of the chyle; secondly, an impaired constitution of the blood; so that, thirdly, when exudations occurred, they assumed the form of tubercle. He then stated that, in conformity with these

views, he considered that the treatment of phthisis should be directed exclusively to the general system, and particularly to the correction of the impaired digestion and assimilation, while the local disease of the lung should in most cases be left to itself. The rule of practice, he thought, ought to be, an endeavour so to act on the digestive system as to improve the quality of the blood. This was to be accomplished, not only by giving animal oil (which, however, as the principle of nutrition that was deficient was directly indicated), but by attention to those circumstances which correct acidity in the alimentary canal, and stimulate all the nutritive processes, such as exercise, bathing, proper diet, mental occupations, &c. &c. He considered the ordinary palliative medicines as useless, and even injurious, because they frequently interfered with the main objects of cure—the correction of the acidity in the intestinal canal, and the introduction into the system of the normal products of assimilation. Beef-steaks and mutton-chops were all very well so far as they went, but experience had proved that, in the majority of cases, they could not be digested. By giving cod-liver oil we saved the stomach, as it were, the trouble of extracting and reducing fluid fat from the food; and, although a considerable quantity of it was not assimilated, a sufficiency was absorbed to increase the molecular basis of the chyle, and to give a stimulus to the better elaboration of blood. It was with this view that he administered cod-liver oil; and since its introduction into British practice, he had had the satisfaction to see it extensively adopted by practitioners in this country, some of whom, as, for instance, Dr. C. J. B. Williams, of London, had published theories as to the action of this remedy, identical, in all essential particulars, with the one advanced by him (Dr. B.). He then criticized at some length the remedies in common use, and pointed out that such as were beneficial operated by stimulating the nutritive functions. The good effects of change of climate, he thought, were to be entirely explained in this way, and not to any supposed action on the lungs. He concluded by announcing his intention of shortly laying his views and the result of his experience more at length before the profession, in a separate publication.—*Monthly Journ. Med. Science*, April, 1853.

19. *On the possible Prevention of Consumption and Scrofula by Oil-Inunction and Inhalation.*—Professor SIMPSON read a communication on this subject before the Edinburgh Medico-Chirurgical Society (Feb. 2, 1853). This communication was founded chiefly on evidence collected by Dr. Simpson from various parts of the country, to the effect that the children and young persons employed in wool-factories (in which large quantities of oil are daily used) were unusually exempt from scrofulous diseases and from pulmonary consumption. Dr. S. considered this immunity to be probably owing to the oily particles which, floating in the atmosphere, or attached to the raw material, entered the system by the lungs and the skin.—*Monthly Journ. Med. Science*, April, 1853.

20. *Treatment of Erysipelas with Iron.* By GEO. W. BALFOUR, M.D.—In consequence of having witnessed the cure of a case of erysipelas treated with iron, under the joint care of Dr. Charles Bell and myself, and also in consequence of Dr. Bell's assurance of its great and unfailing success, I was induced to give this method a trial, and this the more readily that opinions were very much divided regarding the proper treatment of this disease, and I myself had no great confidence in any. Since that time I have treated all my cases, upwards of twenty, with iron, and have had no cause to regret my doing so. On the contrary, erysipelas is one of the few diseases for which I now believe we have a certain and unfailing remedy, and this whether it be infantile or adult, idiopathic or traumatic.

The first case so treated was a highly scrofulous woman, with erysipelas of the scalp, arising from irritation of two large sores on it. She was cured in three days. The second was a man with erysipelas of the foot and ankle, cured in two days. The third was a case of traumatic erysipelas of the scalp in a woman; she was ill for a day or two before being seen, but was cured in about five days' treatment. The wound, a deep cut about three inches long, was healed within a week. In short, all the cases, many of them very severe, and accompanied with high delirium, some of them phlegmonous, others vesicular, and several occurring in children, were cured in less than a week on the average. Suppuration took place in none but two, in both of which the treatment was not commenced till after effusion had taken place. Their convalescence was, of course, more tedious. The ninth day was that on which convalescence commenced even in the most severe cases, and *probably* the course of the disease would have been shorter even in them had the medicine been given more regularly; for so sure is it in its effects, that I can, with I may almost say absolute certainty, predict the state of the patient on ascertaining the quantity of the drug taken; and a glance at the bottle is fully as informing as to the state of the disease as a look at the affected parts themselves.

The tincture of the muriate is that preparation of iron I have hitherto employed, the dose varying with the age of the patient; the great object being to saturate the system with iron as speedily as possible, and to keep it so till the disease is abated. A few doses suffice to remove the pain, and lessen the heart's action; it acts also as a diuretic, and to some extent corrects the secretions, often cleaning the tongue as well as any purgative. It never produced headache nor other unpleasant symptoms, and was continued with advantage throughout the highest delirium. The only other remedy employed was an occasional purgative, and the local application sometimes of a warm poultice, and at others of simple flour, or starch powder and cotton wadding, the poultice being preferred, perhaps without much reason, when the situation or extent of the part affected did not throw difficulties in the way of its application.

Its principal curative action seems, as Mr. G. Hamilton Bell supposes, to be exerted on the capillary vessels; and for this reason, that while its diuretic action is equally well maintained by smaller doses, less frequently repeated, its curative action is not obtained unless the system be saturated with it, and kept so for some time. Farther, without denying that it may act as a renal purgative in disease, I may add that, from some experiments on myself, it does not seem to do so in health. The quantity of the urine was much increased, by fully a half, yet the quantity of urea was increased relatively and absolutely only to so small an amount, a grain or two in twenty-four hours, as to be far within the usual limits of aberration, and much too insignificant, supposing it to be real, to account for the wonderful curative agency of the drug. On taking twenty minims of the tincture every two hours, the second and third doses produced some slight degree of tension in the head, a symptom which subsequently ceased, and did not return. At this period, too, the pulse was slightly accelerated, possibly from nervousness; it afterwards came down from 80, my usual average, to 64. The iron was taken at intervals for four days, regularly every two hours for the last twelve hours. Its diuretic action was always established within an hour after taking each dose; no iron could be detected in the urine, nor in the serum of the blood; but as this may depend on my want of refinement in chemistry, I am willing to give any chemist who may be anxious another opportunity by repeating the experiment; for I know no method of treating any disease more worthy of investigation, and none more deserving of adoption by the profession, than the treatment of erysipelas with iron. Some have supposed its efficacy to be owing to its *stimulant* action; that this is not the case was well shown in a case I had recently under my care—a young man labouring under scarlatina, who had a patch of erysipelas vesicular over the sacrum, and one over the right armpit. Neither of these were at all influenced by the carbonate of ammonia, employed in the treatment of the coexisting scarlatina, but yielded at once to twenty-four hours' treatment with the muriate of iron.—*Monthly Journal of Medical Science*, May, 1853.

21. *Prophylactic Powers of Belladonna in Scarlatina.*—The experience of physicians relative to the prophylactic powers of belladonna in scarlatina lead to very opposite conclusions.

At a late meeting of the Edinburgh Medico-Chirurgical Society (January 19, 1853), Dr. Andrew Wood remarked: "Recent observations, especially those made by Mr. B. Bell, of this city, in Watson's Hospital, seemed to prove that belladonna neither prevented scarlatina nor mitigated its symptoms. This conclusion completely tallied with what he (Dr. W.) had observed in Heriot's Hospital, where the experiment had been made in somewhat a different mode from that of Mr. Bell, as, instead of giving belladonna to all the inmates, he gave it only to one-half. The result was not favourable. In fact, the experiment was only continued a short time, in consequence of the occurrence of a fatal case (the only fatal one during an epidemic in which about forty cases of scarlatina were observed), and in which case the boy had had belladonna, in doses of one-eighth grain twice a day, for three weeks after exposure to infection.

Dr. Newbigging said, that he had had the honour, during the Session of 1849, to lay before the Society a few observations on scarlatina, as it appeared during the epidemic of that year, more especially at John Watson's Institution, and referred to his experience of the apparent efficacy of belladonna as a prophylactic in this disease. Having ascertained that this substance had afterwards entirely failed in the hands of his friends, Dr. Andrew Wood and Mr. B. Bell, he did not consider that it was worthy of farther credit, and could not but feel regret at these results. A case of scarlatina occurring on the 4th of December, in the same institution from which Dr. Newbigging had drawn his former experience, he could not resist trying again the alleged efficacy of this drug. He accordingly gave it to those children, fifty-seven in number, who had not had scarlet fever, commencing it on the occurrence of the case alluded to. No farther instance of the disease has taken place. The child was removed immediately to the sick-room, and every precaution was taken to prevent contact; but the room reserved for the sick opens from the same corridor as the other dormitories, and therefore Dr. Newbigging believed that it was somewhat difficult to make a very perfect isolation. Dr. Newbigging stated that he was by no means anxious to adopt any one-sided or exclusive view on this subject; but he believed that a conclusive opinion would be best obtained by a series of well-recorded observations, on this as well as other points, in the history of a malady which occasionally proves so formidable. And he remarked, that great indeed would be the boon, should advancing science provide us with some such substitute, as vaccination was for smallpox.

In a recent number of the *Monthly Journal of Medical Science* (May, 1853), Dr. Geo. W. Balfour states: The sole vestige of Hahnemannism, which has ever insinuated itself into regular practice, is the question of the prophylactic powers of belladonna in scarlatina; and it becomes those who encourage its lingering amongst us to consider whereto it leads, for its basis, if it have any, is the so-called homœopathic law, and evidence of its curative powers is as easily obtained, and of the same character with that on which its prophylactic powers are founded.

In June, 1851, an epidemic of scarlatina broke out in this neighbourhood. The first case was that of a boy who had been sent on a message to an adjoining parish, where no case of the disease at that time existed. On his return, he was seized with symptoms of British cholera, and the rash appeared the next day, the disease proving subsequently mild. The second case occurred in a house nearly a mile distant from the first one, on the day after the appearance of the rash on him. There had been no communication whatever between the houses, nor between either of them and any other case, so far as could be traced. Other cases, some of the most severe description, subsequently occurred, but not always in the persons of those who had been most exposed to contagion. At first, I was disposed to refer this to the prophylactic virtues of the belladonna solution, which, with the view of testing its supposed powers, had been supplied to the families of those attacked; but on reversing the conditions, by withholding the belladonna, I found the same thing still occurring, viz., that the disease passed by those in daily communication with the sick, and seized others who maintained as complete an isolation as possible—that at times the escape was final, for that epidemic at least; at others, at a subsequent and uncertain period, the disease returned, and seized the brothers, sisters, or other relatives, or cohabitants of those who had been sick, and this entirely without reference to whether they had taken or were taking the belladonna solution; some of the most severe cases having occurred in those who were taking it when seized; while others, who escaped entirely, though exposed to contagion, never got any.

Thoroughly convinced of its utter inadequacy to prevent the disease, I have never since prescribed it; yet recently I have had many single cases, occurring in families who had not previously had the disease, and in whom ordinary precautions, and, indeed, often very imperfectly carried out, sufficed to prevent the spread of the disease beyond the person of the individual first attacked. While thus denying all positive advantages to the belladonna, I believe it to have positive disadvantages; as a continuance of its use, even in the ordinary small doses, is sure to be followed by disordered digestion, foul tongue, etc.—not the most likely condition of body to ward off any epidemic; and, from personal experience of an earlier date, I know that no dose short of a poisonous one, even when continued for some time, has any other effect.—*Monthly Journal of Medical Science*, May, 1853.

22. *Analytical Report on the Treatment of Fever by large doses of Sulphate of Quinia.*—Dr. A. W. Barclay, Medical Registrar to St. George's Hospital, has published (*Medical Times and Gazette*, January 8, 1853) a short summary of all the cases of fever admitted into that hospital from the middle of May to the middle of November, so as to exhibit the comparative results of treatment when large doses of quinia were given, and when the ordinary method was followed.

The question, says Dr. B., is not whether under certain circumstances tonics are not required in fever, for that will be admitted by all who have learned that their patients will not bear loss of blood, and that the great object of the practitioner in anxiously watching a severe and dangerous case is to endeavour to obviate the tendency to death by sheer exhaustion; but the question is, whether, by giving very large doses of the salt, we can decidedly cut short the disease, and restore the patient to health and vigour in a few days, in place of waiting for it to run its course. It must be at once admitted that quinia has not this power in all circumstances, and that at all events cases do occur in which it is perfectly powerless to arrest the progress of the disease to a fatal termination. But it yet remains to inquire whether, in the majority of instances, it exerts any such specific power as in ague, or whether its employment, even without at once putting a stop to the febrile disorder, does yet in any way shorten its duration. And it must be confessed, that it is something strange to have learned that a patient may take between two and three drachms of the sulphate of quinia in twenty-four hours, either in pill or in solution, at the very height of a severe attack of fever, and yet suffer no harm from it, and this even when we are sure that comparatively little can have run off by the bowels, and that none has been rejected by vomiting.

In watching these cases, one fact has been most striking and unmistakable, and that is, the effect of the remedy when pushed to its full extent; the pulse is depressed, the vital powers are prostrated, and vomiting follows. In some of the more severe cases there was such a tendency to sinking that stimulants were had recourse to, and seemed urgently called for. But this condition was by no means followed by a remission of the disease, which recurred as soon as the physiological effects had passed off.

The cases treated by quinia are divided, by Dr. B., into three classes: 1. Those in which its exhibition was followed by marked depression. 2. Those in which the pulse became slower, without general prostration or sickness. 3. Those in which no decided effect was produced which could be noted at the time.

1. Including all the cases together in which this effect was produced, the number is five. Two have been already mentioned as fatal, one of apparent typhus, one of tubercular inflammation of the brain, to which a third may be added, complicated with albuminuria, which was not detected until the subsidence of the fever, and ultimately proving fatal. The physiological effect of the remedy was produced by very different quantities in different instances, and given at very varying intervals. One patient took twenty grains every three hours for nine times; another took ten grains every two hours for ten times; while a third took twenty grains every six hours for only three times; the

other two had twenty grains every four and every six hours respectively for eight times.

Of the three uncomplicated cases, one died, one was ill ten days before admission, and remained under treatment forty-five days before recovery was complete; the other had been ill a week, and was discharged cured at the end of twenty-four days.

2. In two instances only did the pulse become remarkably slower without any depression; one took ten grains every three hours, the other fifteen grains every four hours for about two days, after which the dose was gradually diminished. The first had been ill five days, and was discharged cured in eleven days, having been kept under observation longer than was perhaps absolutely needed to ascertain that recovery was really complete; the second had been ill only two days, and got well in three weeks.

The first case was not severe and had no spots; the second was delirious for the first two or three nights, and had a faint rather indistinct rash on the abdomen: he had also pretty severe diarrhœa, but no evidence of ulceration of the bowels. The pulse fell in each below 50, but it is necessary to state here, that in another instance it fell still lower in which no quinia was given. He made a very rapid recovery, being ill only five days before admission, and leaving the hospital cured in eight days.

3. In eleven cases there was no distinct physiological effect produced by the quinia; and it remains to inquire whether recovery was more rapid under this mode of treatment than any other; and this may be best accomplished by instituting a comparison between them and the whole of the other fever patients admitted during the same time. Twelve examples of a very mild form, which might be justly called febricula, are omitted, and there then remain fifty-one instances of well-marked fever which were not treated by quinia.

Among these, twenty exhibited fever spots on the chest or abdomen, and six with and five without spots gave unequivocal evidence of ulceration of the bowels. By this is not meant merely the occurrence of thin watery motions, which have been observed in the majority of the patients, but the persistence of diarrhœa, with a patchy, shining, or fissured tongue. We have, therefore, as the basis of our analysis, twenty-six cases which neither had fever spots nor distinct evidence of ulceration, fourteen with spots but not certain ulceration, and eleven in which the presumptive evidence of ulceration was strong.

The average duration of these cases, was—of the 26 cases, 10 days before admission, and 21 days under treatment; of the 14 cases, 8 days before admission, and 22 under treatment; of the 11 cases, 7 days before admission, and 33 under treatment.

Turning now to those in which the quinia treatment was adopted, and almost invariably in ten-grain doses every four hours, they include five cases in which there was pretty conclusive evidence of ulceration of the bowels, three of which were also spotted; four cases with spots, where ulceration was not proved, and only two in which neither condition was exhibited. With the last cases it may be best to classify the two already referred to under the second division, because they are not marked by any very broad line of distinction separating them from the present series, and they exhibit the quinia treatment under its most favourable view.

There are, therefore, four cases without spots or decided ulceration, of which the average duration was eight days before admission, and twenty-three under treatment; four cases with spots only, of which the average duration was ten days before admission, and twenty-six under treatment; five cases with ulcerated bowels, of which three had also spots, and their average is fifteen days before admission, thirty-seven under treatment.

I must here distinctly state that, when I commenced this report, I had no idea what the result would be, and, so far from believing it unfavourable, had hoped that, excluding some unfortunate cases, the treatment of fever with quinia would prove rather more speedy, safe, and effectual than by the ordinary modes. I am sorry to be convinced that it has no advantages.

It may be well to state in conclusion, that the prevalent type of fever has been what would be called "typhoid," not true "typhus." One or two had the aspect of congestive typhus, but wanted the purple, mottled rash. One patient had this rash very well marked, mixed with ecchymosed spots, and at the same time had distinct ulceration of the bowels, with a chapped and glazed tongue. Some had a very abundant crop of florid, slightly-elevated spots disappearing on pressure; some had only one or two of this character. Occasionally, the spots are characterized as large, sometimes as small; and individual instances occur exhibiting various degrees of persistency, and various shades of colour, from a pale rose to a deep crimson. Spots existed without ulceration, and ulceration without spots, apparently without any definite rule; and some of the most severe and tedious cases were unaccompanied by either one or the other.

Without entering at present into the *vexata quæstio* of the exact value of fever spots in diagnosis, these facts are mentioned to show that the cases presented very considerable varieties, but I have not been able to ascertain that the quinia treatment was more adapted to one condition than to another. It appeared in the only two cases resembling typhus in which it was tried, that the depression was greater, and produced by a smaller quantity of the alkaloid, than in the remainder, but the instances are too few to draw any general conclusion from them. It is still a desideratum, that similar experiments should be made in the course of a regular epidemic of typhus; for, however otherwise the cases differed among themselves, they had this feature in common, that they were examples of the endemical fever of London.

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23. *Cases of Lymphorrhagia: Varicose Dilatation of the Lymphatic Vessels.*—In the *Mémoires de la Société de Chirurgie de Paris*, tome iii. fascicule 2, M. Demarquay has published two cases of lymphorrhagia, or escape of lymph from the external surface of the body.

Case I.—M. X., aged 17, on the 9th of March, 1852, while playing with some relatives, accidentally found that his shirt and trowsers were wet. On examination, he found that the fluid escaped from a part of the thigh; it was at first colourless, but soon became milky. A medical man was called, who arrested the flow by applying a compress dipped in cold water, with a slightly tightened bandage. The next day, M. Demarquay found, at the lower and inner part of the left thigh, numerous small and depressible elevations, which he at first took for hypertrophy of the follicles. The linen which had been worn on the previous day had become stiff, as if it had been dipped in an albuminous fluid. It was evident that much lymph had escaped, but the exact point of its exit could not be determined.

Some days afterwards, M. Demarquay had an opportunity of seeing some lymph escape from the lower and inner part of the right thigh of M. X. It was at first colourless, and of a slightly opaque tint, passing to yellowish white on accumulation in a glass vessel. On examining with a lens, M. Demarquay ascertained that it escaped from a very limited spot; it was thrown out with some force, for it slightly raised the epidermis; indeed, it flowed in the same way as blood from a small arterial twig at the bottom of a wound. Eight *grammes* (a little more than two drachms) were collected in a wineglass; in a few minutes the fluid was entirely coagulated; it adhered to the vessel, and presented a bluish-white appearance, inclining to yellow.

Some days afterwards, MM. Denonvilliers, Ricord, and Flourens examined the case with M. Demarquay. Independently of a series of granular elevations at the inner part of the right thigh, at the union of the lower with the middle third, there was a projection three or four *centimètres* (one inch and one-fifth to one inch and a half) in extent, reaching, in a slightly curved form, from the front to the inner part of the thigh. It yielded to pressure, like a varicose vein; upon and around it were small granular elevations. The projection increased on motion, and diminished during rest; it was evidently a varicose dilatation of a lymphatic vessel.

From this time till September, M. X. remained free from the lymphorrhagia. At the latter period, when in Montpelier, he was again attacked; the fluid was then examined by M. Bouisson, and other physicians. A flow of lymph occurred for a short time on October 31st; and on November 1st it returned, and continued during nine hours, in spite of pressure by means of a handkerchief, which had hitherto been found sufficient to arrest it. M. Demarquay obtained several ounces of fluid, some of which was furnished to M. Mialhe, for chemical examination. The fluid coagulated, like that already described; but a clot was soon formed in the centre, appearing as if composed of a series of reddish filaments in abundant serum. The varix had increased in size, and the granular elevations observed in March had become transparent and vesicular. On pricking one of them, lymph escaped. The right thigh was at this point more than two *centimètres* (four-fifths of an inch) larger than the left.

Pressure above and below the point whence the lymph escaped gave rise to a jet as from a vein of moderate size. When pressure was made below the dilatation, the flow was not arrested.

M. Demarquay observes that there was here not only dilatation of a lymphatic vessel, but also of the superficial network at two points of the thigh; viz.: anteriorly and interiorly at the junction of the lower with the middle third, and on the anterior part of the middle third. The escape of lymph during nine hours did not produce inconvenience; and up to the date of the report the disease had continued, and the flow of lymph had gradually increased.

Case II.—This case was observed by Dr. Fitzer. A young lady, aged 16, who had not menstruated, had had crural hernia from the age of eight years. In 1847, she found that she had on her abdomen a number of small granular elevations; she was examined by Dr. Fitzer, who found a brownish stripe, three finger-breadths in width, commencing an inch below the umbilicus, to the left of the linea alba. It extended to the left and upwards, passing between the false ribs and the ilium, and ended at the dorsal vertebræ, becoming smaller and more transparent at this part. The middle part of this streak was prominent, and was formed of about eighteen papillary enlargements; some of these resembled the mammillary papillæ in men, others those in women; they were not tender to the touch, and disappeared on pressure. In July, the patient felt some pain in the situation of the streak; and on the 31st of that month, after returning from a walk, she found that there was escaping a milky coagulable fluid. She estimated the quantity which escaped at a quarter of a pint. Dr. Fitzer found the appearance of the parts the same as before. The fluid continued to escape during three days. It was milky, of a saline taste, alkaline, and escaped from two of the largest of the elevations which have been described. When one orifice was compressed, more lymph flowed from the other. Dr. Fitzer cut one of the elevations with curved scissors; he was able to pass a probe for an inch right and left; a quantity of lymph escaped from this incision. Pressure, and the application of alum were insufficient to restrain the flow of lymph; Dr. Fitzer therefore applied nitrate of silver. It was important to arrest the disease, as the girl was losing strength, and the pulse was becoming weak. The lymphorrhagia ceased, but the granular projections remained; new ones were even formed, of the size of a lentil or millet-seed, while the skin over the remaining part of the streak had become pale, like that of the rest of the abdomen.

Microscopical and chemical analysis of the fluid, made by M. Schlossberger, left no doubt that it was lymph.

M. Demarquay has not been able, after diligent search, to find any records of cases of lymphorrhagia from spontaneous rupture of the vessels; cases of lymphorrhagia from wounds have been recorded by Nuck, Van Swieten, and Assalini.

Dilatation of the lymphatic vessels has been observed by Baillie, Mascagni, Amussat, Breschet, Sir A. Cooper, Bichat, Sömmering, Morgagni, Beau, Ricord; also, by Bidloo, Meckel, Rokitansky, Albers, Andral, Otto, and Hasse.[1] But the facts have not as yet been sufficient to enable pathologists to determine the causes, forms, varieties, diagnosis, prognosis, or treatment of the disease. As far as M. Demarquay knows, M. Beau is the only surgeon who has attended to the treatment. In cases of dilatation of the lymphatics of the prepuce, he introduces a small seton into the dilated vessel, and removes it at the end of three or four hours. Obliterative inflammation is thus produced.—*Association Med. Journ.* Feb. 18, 1853.

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[1] Hasse's *Pathological Anatomy.* Sydenham Society's Translation, p. 9.

24. *Spasmodic Asthma.*—The first number of the *Glasgow Medical Journal*, contains an interesting paper on this subject, by Dr. EBEN WATSON.

It appears from Dr. Strang's statistics (Report on the Glasgow Mortality Bill for 1851, p. 46), that in the year 1851, 212 persons died of asthma in Glasgow; and in 1852 (Report on the Glasgow Mortality Bill for 1852, p. 28), rather fewer, viz., 202. Now, by the same tables, we also find that the total deaths from all causes, among persons above fifteen years of age, amounted, in 1851, to 4543, and, in 1852, to 4853; and seeing that asthma very rarely attacks persons below fifteen years of age, it follows that these two numbers afford the means of ascertaining the ratio between the general amount of mortality, and that accruing from asthma. Regarding, therefore, the adult population alone, viz., persons above fifteen years of age, one death was caused by asthma, in 1851, for not more than 20.4 by all other diseases put together; and, in 1852, one death was caused by asthma for 23 by all other diseases. Or, to take another view of it, of all deaths happening to persons above fifteen years of age, 4.6 per cent., in 1851, and 4.1 per cent. in 1852, arose from asthma.

The name of spasmodic asthma was originally founded on the mere supposition of a spasm in the air-passages, occurring so as to cause the sudden paroxysms of dyspnœa, to which the patient is liable; and now that the structure and functions of the bronchial tubes have been thoroughly investigated and made familiar to every one, we do not *suppose*, but we *know*, that such a spasm really occurs; so that in this instance modern science has confirmed ancient hypothesis. There are only two portions of the air-tubes where spasm can at all take place, so as to cause dyspnœa. These two portions are at the rima glottidis, and at the extremities of the bronchial tubes, where, instead of cartilaginous rings, there exist muscular fibres. In all other parts of the bronchi, the rings of cartilage in their outer walls prevent anything like complete closure.

Laennec observed that during the asthmatic paroxysm there was great diminution, or even complete absence, of the respiratory murmur; a fact which is explained by the small tubes being obliterated by the spasm, so that the air cannot pass into and distend the air-vesicles. When the spasm begins to relax, the patient inspires slowly and with difficulty; a vibratory sound, accompanying the inspiration, is heard by the bystanders, and much more loudly through a stethoscope placed over the thyroid cartilage. It is caused by the vibration of the glottis, still partially stretched over the entrance to the windpipe. Sufficient importance has not been attached to the spasm of the glottis in asthmatic cases; it is the glottidean contraction which chiefly hinders the patient from overcoming that of the much weaker fibres of Reisseissen, in the smaller bronchial tubes. As soon as the muscles of the glottis relax, and not till then, does the respiratory murmur become re-established.

Observation thus teaches us that the superior constriction is the last to give way; and Dr. Watson believes that, in early cases of asthma, it is the first to occur. There are two circumstances which prove this satisfactorily to his mind: first, the fact that many cases of purely laryngeal disease end in spasmodic asthma; and, second, that there are cases, though perhaps not very common, in which the affection is confined to the glottis.

In a paper on Chronic Laryngitis, published in the *Dublin Quarterly Journal of Medical Science*, in November, 1850, Dr. Watson stated it as his opinion, that inflammation of the larynx, especially if ulcers have formed, constitutes a not infrequent cause of bronchial asthma, and supported that opinion by the relation of a case, occurring in a lady, who had had acute laryngitis producing ulceration, and passing into the chronic state. Afterwards, not only the usual symptoms of the laryngeal disease remained, which were persistent, but a new affection was excited, viz., spasmodic asthma, in a most severe degree. The bronchial tubes ultimately become altered by the violence of the morbid agency that had attacked them. It was not to be expected that, at this late stage of the disease, any treatment could produce a perfect recovery; but it is satisfactory to be able to state that, after the cure of the laryngeal ulcers by the topical application of solution of caustic, the lady had no such severe asthmatic paroxysms as those from which she formerly suffered.

The occurrence of a kind of asthma confined to the glottis will be sufficiently illustrated by the following case:—

Case.—A young lady consulted Dr. Watson, about two years ago, for sudden attacks of breathlessness. She had no cough of any consequence, and in the intervals of the attacks she breathed freely enough; but as she seldom enjoyed a night's rest, her general health was somewhat disordered. Her pulse was quiet and natural, and there was no evidence of heart-disease; but her complexion was slightly florid, and her lips were of rather a bluish tinge. When he saw her, there was none of the bronchitis which generally attends asthma, and her age forbade the supposition of its being the ordinary kind of that disease. The respiratory sounds in the larynx were loud and harsh, and the exaggerated length of the inspiratory sound was exaggerated.

The fits of dyspnœa were worst at night and in the morning. When the disease was mild, she could, by keeping very quiet and still during the evening, avoid the breathlessness for the early part of the night, and thus she got sleep for a time; but soon after midnight she was sure to awake with frightful dyspnœa, and was obliged either to rise from bed, or, at all events, to spend in a sitting posture the rest of the time usually allotted to sleep. Before she came to Dr. Watson, however, she was always attacked in a similar violent manner in the evening, so that it was only after being completely worn out that she obtained a short repose, from which she was again roused by extreme breathlessness. There was no approach to hysteria.

No other treatment was used but the regular application of a solution of caustic (℈i to ℥i) to the affected part, at first every day, and afterwards every second day. About six weeks of this treatment sufficed to remove the symptoms, and the lady remained quite well until the following winter, when she caught a slight cold and became affected in a similar way; but she applied to Dr. Watson sooner than on the former occasion, and half the time of the same treatment again produced a cure. During the autumn, she again had another attack of her disease; but this time it was so light, and treated so early, that it did not resist the topical application above a week. Since then she has been entirely free of the spasms, notwithstanding the very changeable and trying weather of the past winter.

Dr. Watson then concludes, 1st, that local causes of irritation in the larynx may produce spasmodic contractions, not only of the glottis, but also of the lesser bronchial tubes; and 2d, that spasmodic affections of the glottis may occur periodically for a length of time, without involving the small bronchial tubes in any great or important contraction. These conclusions, if correct, prove that asthma commences in the upper and not in the lower parts of the air-tubes; and that, in the rational treatment of that disease, the remedies most likely to benefit the patient are such as may be applied to the laryngeal lining and to the glottis itself. But it must be remembered that, in many of these cases, universal bronchitis exists along with the spasmodic affection of the upper and lower tubes: this may arise either from causes capable of exciting both diseases, or the bronchitis may have existed previously to the occurrence of an asthmatic paroxysm. The former is then probably the exciting cause of the latter; and he admits that it is difficult, nay, perhaps impossible, to ascertain with accuracy, in this class of cases, whether the spasmodic affection was first excited in the small tubes, or at the top of the larynx. It is enough for practical purposes, however, to know that the latter region is always affected in such cases at the same time as the inferior bronchi, and with even greater intensity; and, moreover, that it is the spasm of the glottis which chiefly maintains that of the bronchi, by preventing their expansion during the forcible inspirations of the patient.

The ordinary treatment by bleeding, general or local, by emetics, antispasmodics, opiates, and mercurials internally, with blisters, and various other counter-irritants externally, has seldom been followed by even a partial success in these cases. It is established, both by clinical observation and by Dr. Williams's experiments,[1] that bleeding carried to any length can never diminish the tendency to spasmodic contraction in the air-tubes; but, during a bad fit of asthma, such a measure may be absolutely necessary to relieve congestions, arising secondarily, either in the brain or in the lungs themselves. Again, though emetics cannot save the patient from a renewal of the spasm, they may assist in overcoming that which exists, as well as in clearing away the mucus which clogs up the smaller tubes; and antispasmodics may assist in prolonging their good effects for a short time. In some cases, where there is much bronchitis, blisters have a good and more lasting effect, but they do not exercise much influence over the spasmodic asthma. In like manner, a slight mercurialization often benefits the bronchitis of the more sthenic variety, as indicated by the expectoration containing plastic matter, mixed with mucous globules; but it can have no effect on the paroxysmal disease. Opium only lulls for a time—an effect by no means to be lightly esteemed; but when the paroxysm becomes severe, it utterly fails.

There is here, therefore, an evident blank in therapeutics. There is no agent hitherto proposed which is capable of removing or greatly diminishing the morbid contractility of the air-tubes. And Dr. Watson thinks that a solution of caustic applied to the interior of the larynx supplies this defect. In proof of its having this exhausting effect on the irritability of the glottis, and ultimately on that of the air-tubes, he refers to the results of its use in hooping-cough, a disease which is so analogous to spasmodic asthma in its pathology, that it is almost enough to show the efficacy of a remedy in the treatment of one of these diseases, to prove its suitableness for the other. Now, in proof that the topical treatment of hooping-cough is most efficacious and successful, it is enough to state that, combining the cases treated by him since he first proposed the plan in 1849, with those treated by M. Joubert, of Cherion, and published in the *Bulletin de Therapeutique*, for January, 1852, we have as follows:—

	Cases.
A speedy cure (in ten to fourteen days) resulted in . . .	78
Shortening of disease (three or four weeks' duration) . .	39
No change was effected in	8
Total number treated	125

There was not one death among all the cases treated, and, taking their percentage, we have—

65.4 . .	were cured within a fortnight.
31.2 . .	were cured in three or four weeks.
6.4 . .	resisted the treatment.
100.0	

He feels assured that no similar statement could be made regarding the results of any other method of treating hooping-cough.

He cannot, as yet, speak of great numbers of cases of spasmodic asthma treated in this way; but he has been very successful with the topical method in some cases that had previously been treated without much benefit in the ordinary manner. Of this, he gives two instances.

Heart-disease is a frequent concomitant of asthma, and in such cases it is often supposed that the former is the cause of the latter disease; but this is by no means the constant relation of the two morbid states, for the disturbance to the pulmonary circulation, occasioned by frequent asthmatic paroxysms, is quite as likely to produce the heart-disease as the reverse. It is, however, more important to call attention to the fact of the great difference between simple spasmodic asthma and that which coexists with heart-disease. The pathology of the former has already been explained as an affection wholly confined to the bronchial tubes. But in cardiac asthma, this is, Dr. Watson ventures to say, never the case. In that disease, the substance of the lung is always more or less altered; generally, the air-cells have become much distended, their walls atrophied, and even in some places ruptured; and it is this vesicular emphysema, not spasmodic contraction of any part of the bronchi, which produces the urgent thirst for air so distressingly experienced by these patients. There could be no good object served by introducing solution of caustic into the larynx in such cases.

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[1] Report read by Dr. C. J. B. Williams, at the meeting of the British Association in Glasgow. See his work on *Diseases of the Chest*, p. 320.

There are, besides the topical application to the larynx, two other remedial measures which Dr. Watson has for some time employed in cases of spasmodic asthma, but regarding which he is not able to speak with precision. The one is electricity, applied, in a gentle current, as much as possible along the course of the larynx and bronchi. In his experiments on the lower animals, Dr. C. J. B. Williams found that such a current destroyed the contractility of the tubes,[1] and in several instances Dr. Watson has thought that it co-operated with other means, in diminishing the frequency and severity of the asthmatic paroxysms. This, however, might be the effect, not only of its local, but of its general action as a tonic on the nervous system. The other agent referred to is strychnia, which he has used in repeated small doses of one-twentieth or one-sixteenth part of a grain, and he believes with good effect in some cases. Dr. Williams found that when animals had been poisoned by this substance, the air-tubes did not exhibit contractility, and he thought that they were retained in a tonic spasm by the operation of the poison. This very probably was the case; but of course the use of strychnia in medicinal doses produces totally different effects on the human system, and the benefit accruing therefrom must have another explanation. Dr. Watson believes that this medicine, in the doses mentioned above, is a powerful equalizer of nervous action, and therefore a good means of diverting that action from concentrating in any particular organ, such as the bronchi in spasmodic asthma.

In conclusion, Dr. Watson recapitulates the chief propositions sought to be established.

1. Very many cases of bronchial asthma have their origin in laryngeal disease; that some remain for a variable period, as a spasmodic affection of the glottidean muscles, and that in all cases of the disease in question, although the bronchi have long been affected, the chief contraction still occurs in the larynx.

2. If this contraction at the glottis be in any way overcome, that of the smaller bronchii either simultaneously or speedily relaxes.

3. The usual remedies employed in spasmodic asthma are either directed against the complications of the disease, and not against its proximate cause, or have been found in practice incapable of accomplishing its removal. The latter are therefore useless, and the former unfit to fulfil the indication referred to above.

4. This indication may be answered more or less perfectly in different cases, by the application of a solution of caustic of moderate strength (gr. xv. or ℈i to ℥i) to the glottis, which is the organ chiefly affected.

5. Cardiac asthma, as it is called, does not usually depend proximately on simple spasmodic contraction of the bronchial tubes, but rather on vesicular emphysema. Cases of this kind are therefore unfit for topical treatment.

6. Electricity passed in gentle currents, as much as possible along the bronchial tubes, may be found to diminish their contractility; and repeated small doses of strychnia may co-operate with the other means of treatment, probably by withdrawing the nervous energy to other parts at a distance from the affected air-tubes.—*Assoc. Med. Journ.* May 27, 1853.

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[1] See Report, formerly referred to.

SURGICAL PATHOLOGY AND THERAPEUTICS, AND OPERATIVE SURGERY.

25. *Improvements introduced into the Practice of Surgery in Great Britain within the last Thirty Years.*—The *Monthly Journal of Medical Science*, for April last, contains an interesting summary, by Prof. SYME, of the practical improvements made in surgery within the last thirty years. The whole article is well worthy a perusal; but our limits will permit us only to notice the more important points.

Treatment of Ulcers and Incised Wounds. By Prof. SYME.—Thirty years ago, a dresser commenced the discharge of his daily duty in the hospital, by spreading a quantity of calamine cerate upon pieces of lint or linen, and cutting some sheets of adhesive plaster into narrow strips. He then proceeded to dress all the suppurating sores, by applying to each a pledget of ointment, next a cushion of carded tow, and finally a long bandage, to keep all secure for twenty-four hours. At present, the use of greasy applications and elaborate bandaging is almost entirely abandoned in such cases; the water-dressing, or wet lint covered with oiled silk, being substituted with great advantage, in regard not only to convenience, but also to promotion of the healing process.

The strips of adhesive plaster prepared by the dresser were devoted chiefly to the treatment of indolent or callous ulcers of the legs, according to the method of Dr. Baynton. This was a process so troublesome and expensive, as very much to limit the relief afforded to such cases, by rendering them unpopular subjects of hospital treatment. But it is now well known that the hard swelling of the limb, which gives these ulcers their peculiar character, may be quickly removed by the application of a large blister, so as to allow speedy healing and sound cicatrization without farther trouble, and thus place the means of recovery within the reach of the poorest and most destitute of patients. Varicose ulcers of the legs, also, used to be treated by the same process of strapping with adhesive plaster, but are now known to heal readily under the simple application of the black-wash.

There was another class of ulcers held to require very severe means of treatment. This was the syphilitic, or more correctly the mercurial sore, of a sinuous or burrowing character, which is so common wherever the delusion of mercury prevails, in all parts of the body, but especially the inner side of the legs and thighs. Its remedy was believed to be impracticable, except through the agency of caustic potass, a stick of which was pushed into all the winding sinuosities of the sore, and rubbed over the discoloured skin surrounding its orifices, so as to destroy the vitality of the unhealthy textures, with what pain to the patient may be easily imagined, and not readily forgotten by any one who has heard the walls of a hospital resounding with the shrieks of agony so excited. Nowadays, instead of this severe discipline, a gentle administration of the hydriodate of potass, to the extent of two grains, twice or thrice a day, and a blister applied over the sore, afford the relief desired, not only without suffering worthy of mention, but much more quickly than in the other way. The same sort of constitutional and local treatment is now found sufficient for the remedy of another description of ulcers, which used to be counteracted by measures still more formidable. This was the disease of the shin bone—then confounded with the incurable condition of caries, and supposed to require removal or destruction of the part affected, by rasping, scraping, and the redhot iron. Chauffers bristling with cauteries are no longer brought into the operating theatre for this purpose; and the only treatment of a local kind deemed requisite, is the application of one or two blisters, followed by water-dressing.

A change no less remarkable has taken place in the treatment of simple incised wounds, or those desired to heal by the first intention. Formerly, immediately after their infliction, the edges were closely approximated and retained in contact by strips of adhesive plaster, and covered with pledgets of lint, cushions of tow, and tight bandages. As a necessary consequence of this system, blood always accumulated in the cavity sufficiently to cause separation of the respective surfaces, so that an abscess resulted, instead of the anticipated union. Now, the greatest care is taken to allow the blood free vent so long as it is disposed to escape, any sort of impermeable covering being withheld, while pressure is diligently applied to maintain the raw surfaces in apposition, so as to be within reach of the adhesive effusion by which their union is effected. Instead of suppuration being the almost invariable rule, and cicatrization a very rare exception, the results are now reversed; and the primary healing of wounds is looked for, if not with certainty, at least with confident expectation.

26. *Senile Gangrené.*—Not many years ago, one of the most painfully discouraging subjects of surgical study or practice was that mortification which is so apt to attack the toes of old people, and has been called the *gangrena senilis.* The insidious commencement of its attack; the agonizing distress which attends its progress; the inefficiency of measures employed for its remedy, and the inevitably fatal result to which it led, rendered this disease indeed one of the *opprobria* of surgery. According to the ideas then entertained, nothing could be done, except keeping up the patient's strength by an ample allowance of wine and brandy, dulling his sensibility with opium, and preparing his friends for the issue. But now the case is very different. The morbid action being attributed to excessive irritability, dependent upon weakness proceeding from an imperfect supply of blood, instead of attempting to supply the deficient vigour by stimulants that can do no good, and must hurry on the disease, the treatment is directed with a view to lessening the tendency to over-action by the use of soothing means. The patient is confined to bed, debarred from animal food in every form, with the exception of milk, which, with water, constitutes his only drink, supplied with doses of morphia in proportion to his pain and restlessness, and has the part affected covered with a linseed poultice. Under this system, the distressing symptoms gradually disappear, the slough ceases to extend, and after its separation the sore cicatrizes soundly, no difficulty or bad effects being subsequently experienced in returning to the ordinary habits of diet and exercise. The student, therefore, no longer turns over this page of his principles with a blush for the imperfection of surgery; and the practitioner, instead of being called upon to undertake a hopeless task, has frequently the satisfaction of conducting his patient safely through what might formerly have well been called the valley of the shadow of death.—*Ibid.*

27. *Amputations.*—Within the last thirty years, a great revolution has taken place in regard to the performance of amputation. Formerly, upon all occasions, whether for the removal of a finger or one of the larger limbs, this operation was done by circular incision; but now it is no less generally accomplished by the formation of flaps. The advantages urged in favour of the latter method, by those who succeeded in establishing it, were the facility, rapidity, and, consequently, smaller amount of pain attending its execution, together with the superior covering to the bones which was afforded by the resulting stump. Of these considerations, the former has lost its value through the introduction of chloroform; but the latter, which was always the more important of the two, still maintains its ground; and, with the exception of the lower part of a muscular thigh, and the upper part of the leg, where the circular method appears to be preferable, leaves no room for hesitation between the old and present modes of performing the operation.

The ankle-joint and bones of the tarsus are so liable to the incurable condition named caries, which peremptorily requires removal of the affected part, that amputation of the leg was not many years ago one of the most common operations witnessed in hospital practice; and as the patients could not afford the expense of a substitute more costly than the simplest form of wooden pin, the limb upon such occasions was taken off immediately below the knee. But it is now well ascertained that, when the disease or injury does not extend above the articulating extremities of the tibia and fibula, the patient may be relieved by depriving him merely of the foot, while the thick integuments of the heel are preserved, to form a cushion for supporting the weight of the body. It farther appears that upon the stump thus formed the patient may stand and walk with a degree of comfort and security hardly less than when the limb remained entire. And, what is of still more consequence, that the operation, instead of frequently proving fatal, like amputation of the leg, is almost entirely free from danger.

Next to the ankle-joint, the elbow is the articulation most subject to incurable disease of the osseous tissue, and hence used frequently to entail upon surgeons the painful duty of performing amputation of the arm, while the hand was perfectly sound. The inferior extremity being chiefly employed in supporting the body, may be replaced with a substitute by artificial means, much more effectually than the arm, and, indeed, so far as both appearance and utility are concerned, with one preferable to the natural limb when it is much shortened, distorted, or weakened. But the case is very different with regard to the hand, which, in its most imperfect condition, far surpasses in usefulness the most ingenious contrivance of art, and therefore preservation of the arm, even in the most crippled state, would be a great object for the patient's comfort. It is now, however, established on the most ample experience, not only that an arm suffering from disease of the elbow-joint may be saved from amputation by cutting out the diseased bones, but that the limb thus preserved may retain its mobility and power so little altered or impaired as to be hardly distinguishable from one in its natural state. Excision of the elbow-joint, therefore, instead of being regarded as an experiment of such doubtful result that it had never been performed in Great Britain, is now the established rule of practice. Indeed, the operation is deemed so safe in its performance, and so satisfactory in its effect, that even in cases where there is no existing disease, but merely stiffness of the joint in a straight or some other inconvenient position, it is undertaken in order to restore mobility and usefulness of the arm.

The morbid condition which requires excision of the articulating extremities of the bones occurs in adults most frequently from the disease which, to distinguish it from others, has been named ulceration of the cartilages; and, to prevent any cavil on the part of those gentlemen who view all questions of pathology through the microscope, and never seem so happy as in endeavouring to unsettle the ideas of practical men by altering the nomenclature of things familiar to them, I beg to explain that by this term I understand merely a particular form of disease, characterized by peculiar symptoms leading to certain changes of texture, and remediable by certain means of treatment. Leeches, blisters, soothing means, and all the ordinary forms of counter-irritation, have been found productive of little more than palliation in cases of this kind; but the actual cautery, when employed before suppuration has taken place, may be relied upon with confidence as a nearly certain and effectual remedy. The ankle, knee, wrist, and elbow joints are most liable to the disease, especially the one last mentioned, and here the beneficial effect of surgical interference may often be witnessed in circumstances of the most impressive character. Yet, thirty years ago the actual cautery, so far as I know, had never been used in this country for the purpose of counter-irritation; and even now I suspect that it is chiefly confined to practitioners who have derived their education from Edinburgh.

In the more frequent forms of articular disease which depend upon scrofulous degeneration of the textures, a no less conspicuous improvement has been introduced, not through the employment, but from the disuse of active measures. It is now admitted that, in such cases, depletion and counter-irritation are not only productive of no benefit, but actually injurious, from the weakening effect which they produce on patients whose weak state of system is the source of derangement, and should be the great object of reparation, all that the affected joint requires being protection from motion or other causes of disturbance.—*Ibid.*

28. *Coagulation of Blood in Arteries by means of a Solution of Perchloride of Iron. Aneurism of the Suborbital Artery cured by this means.*—M. PRAVAZ, of

Lyons, has instituted some experiments with a view to obtaining instantaneous coagulation of blood in arteries. He makes use of perchloride of iron at the maximum of concentration, a few drops of which are to be injected into the vessel in which it is desirous to obtain coagulation. This injection is to be made with a very fine trocar, of either gold or platinum, the diameter of which is scarcely greater than that of a needle; this is to be introduced very obliquely, through the parietes of the artery, with a wriggling motion. To this trocar is adjusted a small syringe, the piston of which works with a rack and pinion motion, so that the injection proceeds without impulse, drop by drop, and in such a way the quantity of liquid injected can be accurately measured. Every turn of the pinion allows of the escape of two drops of the liquid. Whilst this injection is used, the circulation is momentarily arrested in the vessel by means of pressure above and below. A few drops suffice (three or four in a sheep, six or eight in the horse) to form a solid and resisting clot.

Up to this time, the experiments had been only made on animals, but M. Raoul Deslongchamps has just sent before the Surgical Society of Paris, a case of aneurism of the suborbital artery treated with success by injection of perchloride of iron. It was a tumour situated in the suborbital region, affording pretty strong pulsations, isochronous with the heart's action. This tumour, for the cure of which compression had been used without effect, disappeared completely by means of the injection, as recommended by M. Pravaz, after presenting some inflammatory symptoms, which easily yielded to antiphlogistic treatment.—*Dublin Med. Press,* May 25, 1853, from *Gaz. Méd. de Toulouse* and *Presse Méd. Belge.*

29. *Ligature of the External Iliac for a Wound.*—Dr. James Ogden relates (*Association Medical Journal,* April 29, 1853) the following case, which occurred November 14, 1825:—

A man, twenty-six years of age, was stabbed with a long sharp penknife in the right iliac fossa about an inch above Poupart's ligament. A most frightful hemorrhage ensued, and he was instantly dragged across the street to Dr. Ogden's surgery, in a state of syncope, apparently dead, with the blood flowing *per saltum* from the wound. With the assistance of his apprentices, Dr. Ogden immediately passed a director between the peritoneum and the fascia transversalis, cutting this fascia, and the internal and external oblique muscles, so far as to allow him to introduce his finger as a guide for the better protection of the peritoneum. He carried the incision upwards for about three inches, in the direction of the anterior superior spinous process, about an inch and a quarter internal to it. The coagulum which presented itself was scooped out; and, carefully drawing aside the peritoneum, and gradually separating it from its cellular attachments to the parts beneath, Dr. O. was enabled to raise the artery upon the point of his finger, when the wounds in the sheath and artery were perceived. Compression with the finger retarded the hemorrhage. The wound in the fascia was somewhat enlarged, so as to enable him to apply a double ligature, taking care at the same time not to denude the vessel of its *vasa vasorum* any more than could possibly be avoided, and carefully separating the vein from the artery. On examining the state of the parts more minutely, he found that a nerve was included; this was excluded by passing a second needle, armed as before, and withdrawing the first. The artery was then secured firmly, above and below the wound; one end of each ligature was cut off close to the vessel, and the wound in the abdomen secured by sutures, etc. The necessary means were taken to restore animation and warmth to the extremities; and, in the space of two hours, we had the gratification to find pulsation at the wrist, and, in half an hour afterwards, consciousness. The patient was placed in bed at the inn, with the limb slightly bent, and supported by pillows at the knee. A draught was given, composed of spirits of ammonia, compound tincture of cardamoms, and Battley's sedative solution of opium. Warm applications were applied to the feet, etc.

The foot and leg soon became cold and never recovered their warmth; no pulsation could be felt in the femoral, popliteal, or anterior tibial arteries. Six days afterwards the leg and foot became gangrenous, and on the eighth day hemorrhage took place, which in a few minutes caused his death. On *post-mortem* examination, the artery on the cardiac side of the ligature was found to have sloughed, having partaken of the mortification of the extremity and contiguous parts.

30. *Treatment of Cancer.*—M. Devay (*Gaz. Méd.* 1852, No. 52), of the Hôtel Dieu, Lyon, has long been engaged in investigating the therapeutical properties of conium in cancer, being of opinion that Storck's experiments should be resumed with the aid of the improved chemical knowledge of the present period. He finds the best preparations to be an extract and balsam, containing 1 per cent. of conicine, made from the seeds of the plant, gathered when at maturity, of full weight, and of an ash-gray colour. As the result of his researches, he states: 1. That an ointment, applied externally, in chronic enlargements of scrofulous glands, possesses a resolvent power greater than that of any other substance. 2. In engorgements of the uterus, or inflammatory hypertrophy of the organ—so frequently complicating its prolapsus or deviation—this medicine, employed internally and externally, is of great service. 3. In cancerous affections it exerts remarkable calming effects, and in some cases even cures seem to have resulted from its employment, especially in the atrophied form of scirrhus. Its use is less satisfactory in soft and rapidly increasing tumours; but the progress of some of these has seemed to be retarded. In other cases, it has diminished the size of secondary tumours, rendering the primary ones more amenable to surgical operation. As a means of assuaging suffering, whether used topically or taken internally, it is invariably preferred by the patients to opium, and all other narcotics.

M. Manec, surgeon to the Salpêtrière, has just obtained a recompence of 2000 francs from the Académie des Sciences (*Gaz. Méd.* 1853, No. 10), for the perseverance he has shown in investigating the action of Frère Cômes's Arsenical Paste in more than 150 cases of cancer, in some of which he obtained unhoped-for results. His experience leads him to these conclusions: 1. That the arsenical paste penetrates the cancerous tissue by a sort of special action which is limited to it. This action is not simply escharotic, for beneath the superficial, blackish layer, which the caustic has immediately disorganized, the subjacent morbid tissue seems struck with death, though it may retain its proper texture, and almost its ordinary appearance. Later, the cancerous mass is separated by the eliminatory inflammation which is set up around its limits. The same paste, which extends its action more than six centimetres deep in a cancer of close texture, when applied to superficial gnawing ulcers, usually only destroys the morbid texture, however superficial this may be, and respects the sound parts. 2. The absorption of arsenic is proportionate to the extent of surface to which it is applied; and as long as this does not exceed a two-franc piece in size, there is no danger from this source. A large surface should only be attacked by successive applications. 3. Arsenic which is absorbed is chiefly eliminated by the kidneys, during a space of time of not less than five, and not more than eight days, as amply demonstrated by Pelouze. Thus, if we allow nine or ten days to intervene between successive applications, all danger from absorption may be avoided.

M. Gozzi (*Bull. delle Sc. Med.* xx. p. 231) strongly recommends the following caustic for the destruction of cancerous growths: Corrosive subl. ℈j; caustic potass ʒss; arsenic and cerussa āā, gr. vj; to be made into a paste with starch and white of egg. While using this or other caustics, emollient poultices, ointments, &c. should be avoided, as diminishing their effects, unless the irritation produced by their application has been excessive. M. Gozzi objects to the usual plan of destroying the tumour, layer by layer, from the apex to the base, the latter becoming very indurated after these repeated applications, and offering great obstacles to the approximation of surrounding granulations and their cicatrization. He prefers applying the caustic laterally, in the direction where the tumour seems most inclined to separate.—*Brit. and For. Med.-Chirurg. Review*, April, 1853.

31. *Tracheotomy in Epilepsy.*—D. Radcliffe read recently, before the Medical Society of London, a paper "On the Questionable Utility of Tracheotomy in the Treatment of any kind of Epilepsy." In order to arrive at the object of his paper, the author depended chiefly upon a critical examination of the cases of epilepsy in which tracheotomy had been practised, and to this examination he at once proceeded.

Mr. Cane's Case.—The patient was a boatman, aged 24, who had been epileptic for seven or eight years. The fits were severe and frequent. The operation was performed during a fit, in consequence of a state of asphyxial-coma that had lasted nineteen hours. The relief was immediate, and no fits have followed the operation. The habits of the patient were very irregular and intemperate, and he was discharged from his employment on this account about ten months ago. The tube is still worn, and, curiously enough, it is worn with a cork in the opening.

Mr. Anderson's Case.—The patient in this case was a stout, thick-set, muscular female, aged 36, the daughter of an epileptic father, and herself epileptic twenty-four years. Her complexion was ruined by the former use of nitrate of silver. The operation was performed in March, 1851, and the tube was worn until her death, which happened in a fit about four months ago. After the operation, the fits continued as before; possibly, a little less frequently and severely, but decidedly of the same character. Her health and spirits, also, are said to have undergone some slight improvement, and she lost a numbness in the right arm which had previously distressed her; but those who knew her best doubt the existence of any appreciable change of this kind until about two or three months before her death, sixteen months after the operation. The following notes of the final seizure are from Mr. Anderson: "Eight A.M. Had been up and dressed; heard to fall heavily. A woman removed the inner tube from the trachea, as she was in a fit apparently more severe than usual. She 'snorted loudly;' nails of a deeper colour. She was placed on the bed, as the woman thought she would recover as usual." The woman here referred to says, the patient was black in the face and violently convulsed, and that death must have taken place within ten minutes. The body was examined twenty-four hours after death, and the following are the particulars supplied by Mr. Anderson: "Body extremely muscular; cadaverous rigidity still present; not much fat. Head: Vessels of scalp much congested; skull thick, and dura mater so universally adherent that the skull-cap could not be removed until the dura mater was divided. The sinuses were filled with dark blood, and on the removal of the brain an unusual quantity of dark blood flowed from the spinal canal. On either side of the longitudinal sinus, and on the inner side of the frontal bone, two or three growths of bone were found, and to these the dura mater was so firmly adherent that, on attempting to separate it, it was torn through, and portions remained attached. The largest of the exostoses was about an inch and a half in circumference, and projected about half an inch from the surface of the bone. No alteration was observed in the corresponding portion of the cerebrum. The brain was softer than natural, and the puncta were more than usually distinct. There was little fluid in the ventricles, but the choroid plexuses were congested. Lungs: These organs were collapsed, occupying but little more than a third of the thoracic cavity, and somewhat congested at their posterior margin; structure healthy. Heart: Larger than usual (perhaps a fourth); cavities, especially the left, distended with blood. It was surrounded with fat, and its structure flabby;[1] valves healthy. Liver, kidneys, and spleen, highly congested. Uterus natural, but cysts containing viscid fluid in the ovaries. Small intestines (especially lower part of the ilium) congested, and the mesenteric glands enlarged. Internal jugular, above the level of the omohyoid, almost empty."

Mr. Mackarsie's Case.—R. W——, aged 40, and epileptic for twenty years. Latterly, the fits had become much more frequent and severe, the subsequent torpor much prolonged, and the mind much impaired. His complexion had a

[1] Dr. Jenner examined a portion of this heart microscopically, and found some slight degree of fatty degeneration.

congested, mahogany-like tint. Two years previously, he had had two attacks of paralysis; but his present health, apart from the fits, is pretty good. Tracheotomy was performed on the 24th of August, 1852, by means of the tracheotome. On the day following the operation, inflammatory action began in the lungs, and continued until the 6th of August. Thus, August 25th: "A large quantity of mucus has passed from the tube." 26th, "The patient has been hot and feverish, and passed a restless night; tongue furred; pulse 100; a large quantity of mucus passing through the tube." 27th, "Pulse 100, full and hard." 28th, "Tongue still furred." 31st, "Violent hæmoptysis." Sept. 1st, "Violent return of hæmoptysis;" "left lung congested, dull on percussion, and respiratory murmur feeble." 2d, "Expectorates bloody mucus;" "dulness on percussion not so marked; respiratory murmur more audible." 3d, "Still bloody expectoration." 4th, "Pulse 90 and soft." 6th, "Pulse 75, soft; respiration free; dulness on percussion gone." Again, on the 20th September, and for some days afterwards, there was feverishness, attended with bilious vomiting, requiring salines, calomel, and prussic acid. The fits, however, kept away until the second week in October, when four or five slight ones happened. After this, true fits made their appearance, and continued to recur with their usual frequency, though in a mitigated form, until about two months ago, when the tube was withdrawn by the patient's wife (who throughout has been greatly opposed to, and dissatisfied with, the operation), since which time the fits are as bad as ever, and the mental condition worse than ever. Mr. Mackarsie is fully of opinion that, during the time the tube was in the trachea, the mind was more active, the complexion less congested, and the fits less severe.

Mr. J. A. Lockhart Clarke's Case.—In this case, the patient was a female, 23 years of age, who had been epileptic for twelve years. The fits were very violent and very frequent. Laryngotomy, not tracheotomy, was performed about three months ago, and the tube worn until recently, when it was removed, in consequence of there being no perceptible alteration, either in the frequency or in the severity of the fits.

Mr. Henry Thompson's Case.—The main facts of this case are substantially these: The patient was an epileptic of twenty years' standing, whose intellect had suffered considerably. Tracheotomy was performed nearly three months ago. Before the operation, the fits were frequent and violent, and the subsequent sopor prolonged; since the operation, the fits have altered little in frequency and violence; but the subsequent torpor is greatly abridged. The general health also is improved, and the mind much clearer than it was.

Dr. Tyler Smith's Case.—Sarah B——, the wife of a gamekeeper at Debden in Essex, and the mother of four children. She has been epileptic since puberty, and chiefly about the menstrual period. The numbers of the fits during the month were sometimes as many as twenty, but generally not more than five or six. The fits themselves were usually preceded by the scream, and attended with much lividity of the head and neck; the convulsions were very violent, and the subsequent sopor protracted. The mental state was one of great inanity. There had been several paroxysms of insanity, and twice the patient had been in a lunatic asylum. During the month that she remained in the hospital, before the operation, there were nine fits; during the month, after the operation, there were five fits. The operation itself was performed on the 13th of February, by Mr. Lane. On the 15th, 16th, and 17th, she was restless, wakeful, and unruly, with heat of skin, raised pulse, and furred tongue. She threw a glass at the nurse, and persisted in attempting to withdraw the tube from the neck, and her state required constant watching. Three weeks after this time she was greatly depressed, her pulse feeble and wretched, her countenance anxious, and much viscid, fetid phlegm passed from the tube; and this state continued for the greater part of a week. Since this time she has rallied, and now her mental condition is much better than it was during the month before the operation; her fits also are much better, the period of sopor is somewhat abbreviated, and the cry is lost; but still the convulsion is violent, the venous turgescence of the head and neck considerable, though less than it was, and once at least the tongue has been bitten.

Dr. Andrea Verga's Case.—This case cannot strictly be classed with the former cases, for the operation was performed unintentionally, and by the patient himself; but in all other respects it fulfils the required predicaments. It was originally reported in one of the Lombard journals, and copied thence into an early number of Schmidt's *Jahrbuch* for 1852. The main particulars are the following: A. B——, aged 25, was admitted into the great hospital at Milan, with his throat cut and his genitals severely mutilated, in consequence of a determined attempt at suicide. Six months afterwards, the wounds had healed, with the exception of a free fistulous opening in the trachea; but the fits and despondency had undergone no change. The breath passed freely in and out of the artifical opening, and the fits recurred with equal frequency and force, whether that opening were closed or not. In this state he was removed to a madhouse, and there he remained for three years, when he died of tabes, the fistula continuing open, and the fits unabated up to the end. After death, the brain and skin were found congested, and the bowels somewhat ulcerated.

Comments.—Such are the clinical data upon which as yet the remedial value of tracheotomy in epilepsy has to be tested, and the question is whether or not they realize Dr. Hall's expectations, and justify the comments which have been passed upon them.

What of Mr. Cane's case? Here, undoubtedly, the results seem most marked; but do they not prove too much? There are no fits whatever after the operation, and this is not to be expected even on Dr. Hall's own premises. Moreover, fits do happen in all the other cases, and in some of them very severe fits; and this fact gives a probability of at least seven to one that the fits in this case did not keep away in consequence of the operation. It is to be remembered, also, that the wearing of the cork in the tracheal tube did in fact place the patient in the same predicament as that in which he was before the windpipe was opened. Why the fits kept away it is not necessary to inquire, for nothing is more certain than that epilepsy may suddenly disappear, and keep away for a long time, without any apparent cause.

What of Mr. Anderson's case? Here the main questions are as to the character of the fits, the state of the general health, and the cause of death. Were the fits improved in character? Possibly, but not probably. Dr. M. Hall, in his lectures at the College of Physicians, allowed that a fit had followed very shortly after the operation, in which the tongue had been bitten. A Mrs. Dwellie, living in the adjoining garret to the patients, and who frequently went to the patient's assistance when she heard the noise and struggle of the fit, states explicitly that the convulsions were as frequent and violent, and the subsequent sopor as prolonged, after the operation as before it. A Mrs. Smith, also, an aunt of the patient, who had known her from childhood, and who saw her several times a week during the whole of her life, makes the same statement. Miss Lewis, on the contrary, who lives on the first floor of the house in the garret of which the patient lived, thinks the fits, after the operation, were not so severe or frequent as before it; but why she thinks so is not very evident. She saw her in but few fits, and in none, there is reason to believe, from the commencement. Indeed, it is to be understood that this witness was infirm and half crippled, and often quite an invalid; that she had to be fetched from the top of the house, and then to mount up two flights of stairs before she could get to the place where the patient was; so that the fit must have been far from its commencement before she could see it. The last fit, also, which was evidently of great violence, is spoken of only as "apparently more severe than usual," showing that the ordinary fits were severe, and the patient was "expected to recover as usual," showing that death occurred unexpectedly in what was regarded as an ordinary fit. Concerning the state of the general health there are two opinions. Miss Lewis says this was better; Mrs. Dwellie and Mrs. Smith say there was no perceptible improvement until within two or three months from her death, fifteen or sixteen months after the operation. The cause of death is very obscure. It could not be, however, from the strangulation of laryngismus, for the inner tube was removed at the beginning of the last fit, as it was in all the fits in which the patient was watched. Indeed, there was never any neglect or mismanagement about the tube (which reflects the highest credit on Mr. Anderson's mechanical ingenuity), and the patient herself had so schooled herself to it that she could remove and cleanse it, and did so remove and cleanse it many times a day. The fatty state of the heart, as Dr. Hall supposes, might have had something to do with death, for death happened shortly after the commencement of the seizure; but, on the other hand, it is not to be forgotten that there was stertorous breathing, blackness and turgescence of the head and neck, with distended sinuses, distinct cerebral puncta, and other signs, showing that death might have been caused by coma.

What of Mr. Mackarsie's case? Here, it is not difficult to imagine that the pulmonary inflammation and the subsequent febrile action may have had something to do with the absence of the fits during the first two months after the operation; for inflammation and fever are not only uncongenial to, but incompatible with, epilepsy. This inflammation, also, even after its cessation, may have had something to do with the amelioration of the fits, by acting derivatively in regard to that mischief in the brain, the existence of which is to be argued from the two former attacks of paralysis. The fact, however, is not to be doubted, that the fits were "mitigated," and the mental state ameliorated after the operation. This is undeniable. Still, the fits were true fits, and not mere warnings, and there is little or no reason for supposing that they gave up the characters of epilepsia gravior for those of epilepsia mitior; nor is it clear that the mind was not invigorated by hope, or some other psychical stimulus, and that the fits were not subdued by the mind thus invigorated, the tracheal tube all the while acting merely as a charm by which to propitiate hope and her allies; nor is it clear that any diminished sopor after the fit may not have been the consequence rather than the cause of the mental invigoration. Time must elapse before these doubts can be resolved; and in the mean time it must not be forgotten that the wife of the patient was opposed to and dissatisfied with the operation.

What of Mr. Clarke's case? Nothing favourable to the operation.

What of Mr. Henry Thompson's case? In this case the fits recur as frequently as before, but the subsequent sopor and intermediate stupor are greatly diminished. Still, it is by no means certain, or even probable, that the fits after the operation were of the character of epilepsia mitior, or that the diminished sopor and stupor were not the consequences of faith in the operation rather than of the operation itself.

What of Dr. Tyler Smith's case? In this case, it is more than improbable that the fits underwent that modification which they ought to have done, or that any improvement in the symptoms is really due to the operation. All the fits after the operation were certainly not of the type of epilepsia mitior, for the convulsions were severe, and once at least the tongue was bitten. It is doubtful also whether the fits were really less frequent. During the first month of hospital life there were, it is true, nine fits, but this was a time when the patient was exposed to the agitating publicity of an hospital ward, with the fear of an operation before her eyes. The usual number of fits during the month would also seem to be from five to six, though occasionally ranging so high as twenty, and these numbers correspond with the numbers after the operation. It is clear, also, that as yet little can be said about mental improvement after the operation, seeing that a paroxysm of insanity and a week of extreme mental inanity form a part of this period. This being the case, it is not necessary to speculate whether such improvement is psychically or somatically the result of the operation.

What of Dr. Andrea Vergo's case? Possibly very little, but certainly nothing in favour of the operation.

On looking over these cases, therefore, one conclusion is inevitable, namely, that severe fits have followed the operation—fits in which the tongue has been bitten, and one fit in which death has happened. Almost uniformly, the convulsion has been as bad as ever. In Mr. Anderson's, Mr. Clarke's, Mr. Mackarsie's, and possibly in Dr. Andrea Verga's cases, the sopor after the fit, and the torpor between the fits, were unaffected; in Mr. Henry Thompson's, and possibly in Dr. Tyler Smith's cases, they were relieved, though *how* they were relieved remains a matter of doubt. As judged, therefore, by the results of the cases in which it has been practically tested, the utility of tracheotomy in epilepsy would seem to be extremely doubtful; so doubtful, indeed, as to render it a matter of paramount and imperative necessity to pause and ponder well upon the evidence before again resorting to it, and this all the more because it is by no means certain that the remedy is not more dangerous than the disease, and because the inevitable result of the operation is to convert the patient into a dumb, whistling wretch, whose every breath is an annoyance to himself and others. In order to do this, it will be necessary to examine epileptics whose windpipes are sound, as well as those whose windpipes are not sound. It will be necessary to determine how much of the epileptic asphyxia depends upon spasmodic "setting" of the whole chest, and how far this "setting" will negative the results of an opening in the windpipe. It will be necessary to go to the root of the matter, and determine whether, apart from organic disease, the larynx does close spasmodically in epilepsy, and whether such closure can exist at the time of life when epilepsy happens. In the mean time, the absence of any stridulous inspiration in epilepsy, such as is heard in laryngismus stridulus, in the hooping-cough of children, and in certain organic diseases of the larynx, would seem to be a serious if not fatal objection to the idea of laryngismus in epilepsy. The age of epileptics—namely, youth and manhood—is also an objection to the same effect; for, judging from the history of laryngismus stridulus and hooping-cough, pure spasmodic closure of the larynx is usually confined to the period antecedent to that at which epilepsy commences; indeed, as a rule, laryngismus stridulus is an affection of teething, and hooping-cough loses its characteristic hoop before puberty. This deduction is also borne out by the results which follow the division of the laryngeal nerves in the lower animals, as dogs and cats; for in these experiments the young animal is immediately suffocated by the closure of the glottidean chink, whereas the old animal goes on breathing without any evident diminution in the current of air.

Dr. **Crisp** regretted the absence of Dr. Marshall Hall, and was disposed to regard with favour the operation proposed by that gentleman. He deemed the whole subject worthy of further inquiry. Many epileptic patients are anæmic, but others are plethoric.

Dr. **Barnes** believed the subject to be very important, and the discussion of it not premature. He gave credit to the author of the paper for having recited the cases with fairness and candour, but inferred that Dr. Radcliffe had misapprehended Dr. Hall's views on the subject. He affirmed that each of the cases recited had exhibited marked improvement after the operation. Mr. Cane's case had been very successful; he admitted that. Mr. Anderson's patient had not died from asphyxia; but he did not admit Mr. Radcliffe's explanation. Dr. Jenner had found the heart in a state of fatty degeneration—a physical condition likely to cause death. Laryngismus is not met with in every case of epilepsy, neither is its presence essential.

Dr. **Tyler Smith**, in reference to his own case, explained that the attack of mania after the operation was probably to be attributed to the influence of chloroform. The fits are slighter, and the condition of the mind is clearly improved. He believed laryngismus to be essential to the disease, and that it occurs in adults without the stridulous breathing, except that the peculiar cry is a modification of that symptom. Lividity of countenance may be induced by spasm of the muscles of the neck, without the occurrence of laryngismus or closure of the glottis. Tracheotomy is not a serious operation.

Mr. **Dendy** thought that Dr. Hall had not been hardly treated, and that the cases had been fairly recited by Dr. Radcliffe. Tracheotomy is proposed, not as a remedy for epilepsy, but to relieve one of its symptoms. It is not a dangerous operation; yet he doubted if medical men would themselves submit to it. Laryngismus is neither the essence nor the proximate cause of the disease, and when it occurs it may pass away without the exhibition of any remedy. It is not important to decide whether the disease be essentially anæmic or not; but the case must be treated according to the nature of the patient's constitution. Congestion is not always productive of asphyxia, and may be relieved in some cases without the operation, or indeed without any remedy whatever. He believed that the good effects of the operation had been exaggerated.

Mr. H. Thompson, on referring to his own case, believed that the nature of the fit had been well made out, and stated that the family were unanimous in asserting that much benefit had followed the operation. The mind is clearly improved. He had witnessed the occurrence of a fit that morning, and found that loss of consciousness continued but during three or four minutes, instead of four hours, as had usually been the case previous to the operation. On that occasion, the tube was not in a clean condition, and the same fact had been noticed on the occurrence of all the fits subsequent to the operation. He had removed the tube, and observed that respiration appeared to be suspended for a few seconds, no sound indicating the passage of air through the trachea.

Mr. Bullock described the present improved condition of Dr. Tyler Smith's patient.

Dr. Camps approved the operation under the circumstances selected by Dr. Marshall Hall. He considered that an attack of epilepsy is not antagonized by existing inflammation or fever.

Mr. C. Clark mentioned a case which he had relieved by artificial respiration.

Dr. Radcliffe, in reply, said that he had taken up the question under consideration, not because it clashed with any of his own opinions respecting convulsive diseases, which it did not; but simply as a matter of fact that, from its importance, ought not to be passed over any longer. He had frankly expressed his present convictions; but he was perfectly willing and ready to change them whenever they were shown to be wrong. He had, he trusted, acted with all honour and sincerity, and his only regret was that Dr. Marshall Hall (whom he and all the profession highly honoured) had not been present in person to hear and reply to what he had ventured to say. In reply to an observation that had been made in the discussion, he would only say that he could not understand how the epileptic cry could be a proof of laryngismus.—*Lancet*, May 14, 1853.

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32. *On Cysts in the Neck.* By M. Seutin, Professor of Clinical Surgery in the University of Brussels.—These serous cysts are generally easily cured. The following is the plan I have for some time adopted: I puncture the tumour, and inject it with tincture of iodine diluted with one or two parts of water, or I replace the trocar canula by a bit of a gum-elastic catheter, cut slanting at one end, and by the other fastened around the neck with a tape. The object is to cause adhesive inflammation. If these are not sufficient, I repeat the injections. When a suitable amount of inflammatory action is established, I then approximate the walls of the tumour by moderate pressure. This mode of treatment which I have always used was first suggested to me by that which Baron Larrey used for hydrocele—a disease to which I have always compared these serous cysts of the neck. Before M. Velpeau recommended the tincture of iodine, I used either alcohol diluted with water or warm wine. When the parietes of these cysts are indurated and thickened, and the lining membrane resting on condensed cellular tissue, they cannot be approximated so as to obliterate the cavity, then it will be necessary to make a free incision into them, and insert tents of lint, smeared with the red oxide of mercury, or some other caustic, so as to irritate and cause the lining membrane to granulate.

If there are more than one, or if the tumour be multilocular, they must each be operated on. Sometimes two can be included in one by making a communication between them, so that in place of two, it will only be necessary to make one puncture in the skin. As a consequence of this treatment, little hard fibrous tumours caused by the thickened membrane of the cyst, are left; they are, however gradually absorbed, but some of them not for eighteen months or two years; yet, even if they remain stationary, they ought not to be removed, as they never can interfere with any important function, as the voice, respiration, &c. They also generally contract intimate adhesions with the carotid artery or jugular vein. They inclose veins, which, on being cut, might allow of the entrance of air, and the numerous vessels of this region frequently give rise to consecutive hemorrhage. Lastly, the operation for their removal takes up a long time (from an hour to an hour and a half), is harassing to the patient, exposes a large extent of surface, causes suppuration, which may extend into the chest, or purulent infection may supervene. This last is a very frequent consequence on operations about the neck, owing to the great number of vessels, glands, and veins in that region. Finally, all surgeons who have removed them, including Dupuytren, Boyer, Roux, &c., have repented of it. De Labacherie has published in the *Mémoirs de l'Académie* similar unfavourable results, and I myself, from the result of experience, would carefully avoid it. It will be sufficient to use some iodine ointment to hasten their absorption. As to the cysts, they should be operated on as soon as possible while they are as yet small, as their lining membrane after operation forms a suppurating surface, and the smaller this is, so much the less inconvenience will be likely to follow; also the induration left after will be less marked. Similar tumours containing blood require the same mode of treatment, but their external covering being thicker, they resist the action of injections, and will require a longer time to be absorbed. Cases are then given.

1. Of a cyst attached by a pedicle to the cricothyroid membrane, dissected out; operation succeeded. This tumor was so hard that it was supposed at first to have been fatty.

2. Of a cyst at the anterior and lower part of neck, treated by injections of diluted alcohol, and keeping in a bit of gum-elastic probe, cured at the end of three months.

3. Of an enormous cyst on the left side of the neck, extending above to the lower jaw, below to clavicle, to the median line in front, and trapezius muscle posteriorly, and afforded a distinct sense of fluctuation. It was punctured at its lower part, and its interior irritated by scraping it with the end of the canula, and injected with solution of caustic potash. Violent inflammation supervened, which was abated by antiphlogistic means, emollient injections thrown into the sac through the canula, which was left in the wound, so as to let the pus, which was secreted in abundance, run out. In two months the parietes were agglutinated, a large extent of surface remained indurated and a little thickened, but entirely disappeared at the end of half a year.

4. Of an immense tumour extending from the mastoid process to an inch above the clavicle, occupying the side of the neck; the head was turned towards the opposite side; fluctuation was manifest; an exploratory puncture gave exit to some dark-coloured serosity. It was then tapped with a tolerably large trocar. The fluid contained little whitish fibrinous clots. Iodine injections were used, and the tent of gum-elastic left in the opening. After five days, inflammation ensued, suppuration followed, and in three or four months the tumour was obliterated.

5. A tumour containing grumous blood, about the size of a pigeon's egg, along the edge of sterno-mastoid muscle, treated by iodine injections, and obliterated in twenty days.—*Dublin Medical Press*, April 6, from *Presse Médicale Belge.*

33. *Extensive Œdema supervening after Removal of a Portion of the Tonsil.*—Dr. John Williams communicated to the Surgical Society of Ireland (March 12) the following curious case of extensive œdema supervening after the removal of a portion of an enlarged strumous tonsil.

The subject of the case was a gentleman residing in the county of Cork, ætat. 36, a stout muscular man, but with a short thick neck, fair complexion, and evidently evincing the strumous diathesis. Until the winter of 1849, he had enjoyed excellent health, but during this period he was subjected to the very great annoyance of almost constant inflammation of the tonsils after the least exciting cause. His favourite amusement (shooting), he was obliged to give up altogether. This state of things continued until July, 1851, when his friends, uneasy at his laboured and stertorous respiration when he slept, urged him to get medical advice. He did so. Local and constitutional treatment were both had recourse to ineffectually, with respect to causing an improvement in his respiration, though his general health was materially served. In August, 1852, dyspnœa to such an alarming extent set in, attended with periodic attacks of spasmodic action of the muscles of both the pharynx and larynx, that he would suddenly awaken as if suffocating, and gasp for breath. On these occasions, "he dreaded to go to sleep, lest he might be suffocated."

Dr. Williams accompanied the patient to Dublin, where Sir Philip Crampton and Mr. Adams were consulted, who considered it absolutely necessary that a portion of the right tonsil should be removed. Dr. W. states that the part of the tonsil which required removal was the inferior portion of the gland, and was wellnigh in contact with the epiglottis. Both tonsils were much enlarged and indurated, with broad bases, presenting, in fact, a well-marked example of strumous enlargement. The offending part was quickly removed by the guillotine. Hemorrhage to a very trifling extent followed. No inflammation of any extent succeeded the operation. Cold water was the only gargle he employed. His respiration was so much improved that on the first night he slept tranquilly. On the fifth day he was enabled to give up the farinaceous diet, which he had previously confined himself to, and at the end of the week he felt so well as to be able to return to Cork by train. He complained a little of the journey; but on the third day after he was so well, I thought I might with safety leave him. By the next post, however, I received a note stating he was dangerously ill, and on my return, what was my amazement, when I perceived *most extensive œdematous swelling* at both sides of the neck (particularly at the right side, beneath the angle of the jaw; and on looking into the mouth, the same existed. With the greatest difficulty I was able to reach the epiglottis, but it fortunately escaped. His suffering was very great. Every position, both in and out of bed, he sought in vain for relief. Parched with thirst, he would make signs (he could not speak) for a spoonful of drink, but no sooner did he endeavour to swallow it, when spasm of the muscles of the pharynx would ensue. Punctures were made into the velum palati, for it projected forwards considerably, blisters put on, and the local application of a strong solution of nitrate of silver, and enemata; for deglutition was in such a state that nothing could be swallowed. After ten or twelve hours he was considerably relieved. Blisters were repeated. The swelling throughout was not characterized by a blush of redness to any extent, nor did the pulse range much above its ordinary standard. The concurrence of these circumstances, with the fact that no constitutional symptoms ushered in the attack, confirmed my belief that it was pure œdema, not partaking of the erysipelatous character. I remarked previous to the attack, that the cut surface of the tonsil exhibited the same appearance as it did immediately after the operation, the contraction I daily looked for not having occurred. On the fourth or fifth day after he began to improve; he became profusely salivated; his gums and cheeks swollen, the latter bearing deeply the impress of the teeth. This improvement, however, was but of transitory duration, for suddenly the same amount of œdema again took place, and like difficulty in deglutition, but there was no dyspnœa of any great extent. As may be expected, his strength now gave way, his pulse ranged from 96 to 100, was weak and compressible. It was now evident that tonics should be freely given, but not even a teaspoonful could be swallowed until he inhaled the vapor of steam for some time. By the same local treatment as before, he began again to improve, and continued to do so, though very slowly. Six weeks fully elapsed before he was able to make use of solid food. All dyspnœa is now gone, and he considers himself quite well. During the winter, the least continuance of damp weather much affected him.—*Dublin Medical Press*, April 6, 1853.

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34. *Treatment of Obstinate Strictures of the Urethra by External Incision upon a Grooved Director.*—[About nine years ago, Prof. Syme, of Edinburgh, communicated to the profession a mode of treating obstinate strictures of the urethra, which he professed to have practised successfully. His proposition met with little favour, some of his statements were denied, and when one or two of the London surgeons tardily tried the operation the cases were reported to have terminated fatally. An angry discussion then sprung up, involving so much personal feeling that it became almost impossible to determine the real value of

the operation or the degree of success which attended it. In April last, Mr. Syme went to London, and read a paper on the subject before the Royal Medical and Chirurgical Society, a full report of which we shall lay before our readers. We shall also give the report of the discussion which took place, as it is also interesting, though most of the hospital surgeons of London absented themselves from the meeting, evidently shrinking from becoming involved in the angry discussion which it was anticipated the reading of Professor Syme's paper would call forth, as the professor, in some of his publications, had handled his opponents very roughly.]

Mr. Syme commenced by apologizing for venturing to lay his observations before the practitioners of London. The comparatively small field which it had been his province to occupy might appear hardly to warrant such a course. It might also be said that he might have availed himself of the ordinary channels, instead of reading a paper to the Royal Medical and Chirurgical Society. But he would plead as his justification the peculiar circumstances in which he felt himself placed, and his sincere persuasion that he had devised an easy, safe, and effectual mode of relief from one of the most distressing infirmities we are acquainted with. He was desirous that this benefit should be extended; but, as the reception of his proposal had been impeded by the statements which had emanated from metropolitan publications, he believed that, although the truth might and no doubt ultimately would prevail, a long time must elapse before it could be embraced through the ordinary course of experience. And any attempt to unravel or refute the various statements which had been made concerning the operation, by tracing out their errors, would have been a task no less unpleasant than unprofitable. Under those circumstances, it had seemed to him that the only practical mode of conduct was to come personally before that Society, which, more especially, was understood to represent the respectability and intelligence of the practitioners in London; to explain the plan of treatment which he had endeavoured to introduce, and to state the facts upon which he was willing that its credit should rest, and supply any farther information which might be required by any member of the Society who had entertained a different opinion upon the subject.

It would be unnecessary to detain the Society by an account of stricture; the object being to direct attention to certain forms of the disease, which resist the hitherto established means of treatment, and which seem to require some other remedy. In one of these forms of stricture there is extreme irritability, and attempts to effect dilatation are followed often by violent local and constitutional disturbance. In another, the stricture might be dilated, but speedily contracted again, so as to renew the symptoms attending the first stricture; and in the third form the stricture might be dilated sufficiently to admit the insertion of a full-sized instrument, but micturition remained painful, difficult, and uncertain. For the remedy of these three forms of stricture, there were various established means of treatment which might be referred to two heads—dilatation and the use of caustic; these have proved unavailing beyond a temporary amelioration, and have too frequently aggravated the evil. He would not calculate how many lives had been rendered miserable through the vain struggles on the part of surgeons to remedy the disease, but he would simply notice the will of M. Argenteuil, who bequeathed funds sufficient for bestowing periodically a prize of £500 for the greatest practical improvement in the treatment of stricture.

The simple bougie was quite sufficient for the treatment of ordinary strictures; but for the effectual remedy of stricture when it assumed one or other of the peculiar forms to which attention had been directed, he maintained that a free division of the contracted part of the urethra was essentially required. For this purpose, he introduced a grooved director; and he believed that there was no stricture which, through time and care, might not be made to admit an instrument of this kind. The patient being then placed upon his back at the edge of the bed, and the knees held up, an incision of about an inch and a half in length, was made in the perineum, sufficient to admit the knife, while the thick texture was freely divided to the extent of an inch or two, or more if necessary. A No. 8 catheter was afterwards retained in the bladder for at least two, but not more than three days. The procedure which was described was extremely simple, and might be accomplished in a very short time. At the same time, no operation demanded a more exact precision of performance, whether regard were had to the attainment of its object or to its immediate effects. Unless the urethra were divided at the proper place, no permanent benefit could result. If the knife were not confined to the middle line of the perineum, there would be the greatest risk of hemorrhage and extravasation of urine. M. Reybard, who appeared to follow the plan of internal incision, had said that, whatever were the form of the stricture, the incision ought always to be directed laterally, so as to avoid the artery of the bulb placed below. But the Academy of Medicine, with regard to the position of the artery of the bulb, had promulgated a great error in the practice of surgery; since the vessel lay at the side of the canal, and could be avoided with certainty only when the incision was made exactly in the middle line. Mr. Syme had heard that in one of the London hospitals the operation had been performed, professedly according to his principles, without any grooved conductor, the only guide being a small silver catheter. He believed it not possible to make a straight, continuous incision through the stricture on such an instrument. He had read of a case in which a catheter, instead of being retained for two, or at most three days, had been left in for six weeks, notwithstanding the well-established fact that the presence of such an instrument, so far from promoting, greatly impeded the closure of the fistulous opening into the urethra. With still greater astonishment, he had heard of operations, performed in London and Paris, considered to be in accordance with his principles, but without any instruments at all being introduced through the stricture. For the disastrous results of such proceedings, the operation which he had proposed could not be held responsible. The only resources of danger were hemorrhage and extravasation of urine. When the knife was properly applied there could be no bleeding, except from the superficial perineal vessels, and the cells of the corpus spongiosum. There was seldom more than a teaspoonful of blood; and with oozing it hardly amounted to one or two ounces. If the patient were full of blood, the quantity discharged in the regular way might be allowed to go on to the amount of a teacupful. This would prove rather salutary than otherwise; and was hardly to be prevented, except the patient were in a nervous state from unnecessary alarm; and this small amount of bleeding could always be restrained by a piece of lint applied by slight pressure for a few hours.

With regard to the extravasation of urine, there could be no doubt that the circumstances most favourable to its production were openings through the deep fascia of the perineum. Hence arose the danger of the operation for impermeable stricture by making deep incisions into the perineum. According to his (Mr. Syme's) proposal, only the fascia lying immediately under the perineal integument was incised, and the knife was guided with certainty through the whole stricture. As a farther precaution, he retained the bougie until the cut surface was sealed up; so that extravasation of urine was less likely to happen than hemorrhage. It was this consideration which had originally led him to regard the operation as free from danger; and, as he had performed it upwards of seventy times, without any fatal or alarming consequences, it would be allowed that his anticipations had not been unduly sanguine.

The following was the course of events which usually followed the operation: The patient having been placed in his bed, on awaking from his chloroform sleep, frequently had considerable difficulty in believing that the operation had been accomplished. He then would begin to feel the blessing of constant relief, no trace of suffering appearing; he was tranquil and easily managed, not requiring opiates, or any other treatment, until there should appear to be a greater degree of oozing from the wound than convenient, on which a piece of lint might be applied until the bleeding ceased, which it usually did in a few minutes. The diet should be chiefly farinaceous, as animal food might cause thirst and restlessness. Cooling drinks, according to the patient's taste, should be supplied; while wine and other stimulants were carefully withheld. At the end of forty-eight hours, Mr. Syme generally removed the catheter; but another day's delay on the whole seemed advisable, because the escape of urine through the wound might thus be prevented. In about one-third of those cases, the instrument had remained only a shorter period. A curious train of nervous symptoms, consisting of rigors, bilious vomiting, suppression of urine, and delirium, sometimes appeared, to the consternation of all those who were unaware of their nature. They occurred most frequently after the catheter was withdrawn; and they appeared to depend upon the urine resuming its natural course. They had never lasted more than thirty hours, and seldom little more than half that time. Opium and other remedies had their disciples; but the symptoms only required for their removal time and patience, so that the surgeon might confidently assure himself that there was no ground whatever for the slightest alarm or uneasiness for the cure. Recovery might be considered complete in the course of a few days, when the patient would pass water in a full stream, with ordinary frequency, having nothing to remind him of the operation, except the superficial appearance of a wound which soon contracted and cicatrized. After the withdrawal of the catheter, the urine continued to escape now and then through the wound, but it soon diminished to a few drops, and gradually resumed its proper course. The cure must be maintained by the introduction of a full-sized bougie every three or four weeks, afterwards at more distant intervals, according to the circumstances of the case.

The author then related some cases illustrative of his treatment; they were first, cases of stricture of the urethra which had resisted the established form of treatment; secondly, stricture of the urethra impermeable by surgeons of experience and reputation, but which might, through time and care, permit the introduction of an instrument, and the free division of the thickened and contracted part of the canal upon a grooved director; so that complete and permanent relief, even in the most distressing and obstinate conditions of the stricture, might be afforded. Each case might not contribute evidence on all those points: but the testimony of the whole must be considered.

Case I.—About twelve years ago, Mr. Syme was directed to take charge of a gentleman suffering severely from stricture, which had been contracted upwards of twenty years. During the greater part of this period, it had admitted of such palliation from the use of a bougie, as not to interfere materially with his comfort; but latterly it had become excessively aggravated. Day and night the calls to make water were almost incessant, and in the laborious effort to empty the bladder the patient was constantly exhausted. He was troubled at the same time with an involuntary discharge of urine. The stricture, which was anterior to the bulb, had contracted so as no longer to permit the introduction of an instrument, and the tall and vast frame of the patient was emaciated to a shadow; and he became so sensitive, that the slightest change of weather greatly aggravated his complaint. In these circumstances, Mr. Syme commenced with introducing a bougie of the smallest size; and when in the progress of the case he had arrived at No. 5, he found the stricture obstinately opposed to any farther dilatation. The degree already attained had afforded him no relief whatever. Confinement to bed was then tried, with retention of the catheter, until one of the largest capacity was introduced. The patient's health improved, and he evacuated his water with so much more ease, that Mr. Syme expected no more trouble; but the day after the catheter was withdrawn, the symptoms were renewed without any diminution. Soon after this, Mr. Liston having come on a visit to his friends in Edinburgh, Mr. Syme asked him to see this patient; he advised internal incision with a lanceted catheter. This was accordingly done, so freely, that a full-sized bougie was passed immediately afterwards without the slightest obstruction. As no benefit, however, resulted beyond a partial relief of only one or two days' duration, the process was repeated, using two catheters, which cut on two sides, but with no material difference in the effect produced. The patient, who had cheerfully submitted to these long and various efforts to afford relief, now desired Mr. Syme to do something effectual. He suggested the performance of external incision on a grooved director. The patient eagerly caught at this proposal, and from that time, more than ten years, has enjoyed the most perfect local and general health.

Case II.—In 1844, Dr. Wickham, of Penrith, came to Edinburgh with a case of stricture, which had proved peculiarly obstinate and distressing. Although the patient was under 50, it had existed for twenty-seven years. Latterly, the symptoms having been much more severe, the assistance of a practitioner had been required; but the patient returned home after two months' assiduous attempts without ever getting an instrument introduced. There was now a fistula; and such stony hardness as to suggest cartilage. Upon examination, a full-sized instrument could be passed without pain or bleeding. The patient returned home; but in the course of a few months came back with the symptoms of stricture no less urgent than before. Mr. Syme introduced a grooved director into the contracted part, and freely divided it by internal incision; the patient soon felt quite well. More than eight years have elapsed, and he still remains well.

Case III.—A gentleman, aged thirty, came from Sunderland to put himself under Mr. Syme's care, on account of a stricture in the urethra. After many abortive efforts, the patient, despairing of relief, resolved to endure the complaint without any attempt at a remedy. Symptoms of frequent incontinence added to difficulty of evacuation set in, and he placed himself under Mr. Syme's charge. At the end of six weeks he returned home in the enjoyment of perfect health; and Mr. Syme had heard recently that he continued to do so.

Case IV.— ——, aged thirty-five, married, of correct habits in his mode of life, applied to Mr. Syme in the month of October, with a stricture anterior to the bulb. For the last five years he had been under the treatment successively of three most eminent surgeons in London, who had employed dilatation by bougies with the effect of affording partial relief, but neither complete nor permanent. A director having been passed, an incision was made in the middle line of the perineum, and pushed the knife forwards so as to divide the stricture completely. A No. 8 catheter was passed with perfect facility, and retained in the bladder for forty-eight hours. The nervous state to which reference had been made as a not infrequent occurrence, commenced and continued about the usual period so as to alarm the patient and his friends. To the patient's great comfort, urine flowed copiously in a full stream, very different from that to which he had been so long accustomed; and recovery was in every respect complete.

Case V.—Captain —— applied to Mr. Syme in January, 1851, on account of a stricture, of which he gave the following history: "In 1829, I was serving on board one of Her Majesty's ships in the Mediterranean, when I first observed the stricture. Bougies were then introduced; and in a short time the complaint seemed to be overcome. I continued until 1832 in the East Indies, on board one of Her Majesty's ships, and I suffered very much. I sought relief on board ship, but found none, as the medical man could not pass an instrument. This state of things continued for two years, no instrument having been passed. In 1836, I sailed as lieutenant in a ship for the Arctic regions, when I suffered great inconvenience in making water. I was there when the ice broke up, exposing the ship to great danger, and obliging the officers, as well as men, to expose themselves to a very low temperature—80° below freezing point upon some occasions. At the end of the voyage, I went to Haslar hospital, where I remained for six weeks. I then went to an eminent surgeon, who succeeded in passing bougies up to No. 6. He then used a catheter with a lancet blade with little benefit. I suffered severely when on the coast of Africa; and, on two occasions, I felt it necessary to decline offers of appointments in the service."

Upon examination, Mr. Syme found a slight contraction, about three inches from the orifice, anterior to the bulb. He passed bougies up to No. 4, but farther dilatation was resisted; and as the patient had experienced no relief from the degree afforded, he divided the contracted part by external incision. After the usual symptoms, he made an excellent recovery, and continues well.

Case VI.—Mr. ——, aged twenty-seven, from his earliest recollection had experienced a degree of difficulty in evacuating his urine. In 1843, he went to the East Indies, and there suffered severely from attacks of gonorrhœa. Having returned home, he was exposed to severe cold in Ireland. Next year, a fresh attack of gonorrhœa was followed by aggravated symptoms of stricture, which led to the employment of various measures without success. Being in the public service, he went to Haslar hospital, at Portsmouth, where innumerable attempts were made with all sorts of rigid and flexible instruments; but all in vain. The stricture was in the usual situation, anterior to the bulb. The patient came to Edinburgh; and, at the very first attempt, Mr. Syme passed a metallic bougie. At the end of three weeks, he could introduce a No. 10 instrument. The patient then went home, with instructions to have the instrument passed regularly. Twelve months afterwards, he again applied, complaining that the stricture was as troublesome as ever. Mr. Syme passed small bougies on two different occasions; but as severe rigors were produced, and the symptoms derived no alleviation, he performed the operation. Nothing occurred to impede recovery, and at the end of three weeks the patient returned to London, being able to make water with a degree of freedom he had never known. Wishing to know the present state of this gentleman, Mr. Syme had written to Mr. Henry Thompson, and had been informed by him that the patient had had no return of his old urinary symptoms.

Six other cases were related by Mr. Syme, which, however, we are from want of space compelled to omit.

The cases were selected from Mr. Syme's private practice, as permitting more easy and satisfactory reference. Hospital patients were often lost sight of when they left the hospital. He presumed not to throw blame on his brethren for the employment of other means; but these means were not always sufficient. The operation might be performed with safety; and he ventured to hope that the Society would give him the credit of good intention in bringing the matter under its notice. (Applause.)

Mr. Wade said, that it was well known that surgeons had, previously to Mr. Syme, directed their minds to the performance of the perineal section in intractable cases in which no instrument could be passed; though they had never thought of performing it to the extent recommended by him. There would be differences as to the best mode of managing the more intractable strictures. It probably mattered little to the patient what means were adopted, so that the object was gained without danger; but where there was danger in any proceeding, it was the duty of the surgeon first to employ every other means. The operation was not new: for Sir B. Brodie, in the edition of his work on *Diseases of the Urinary Organs*, published in 1841, in speaking of the difficulty of dilating urethral obstruction, had stated that it would sometimes be necessary to introduce a small grooved staff into the bladder, and divide the cicatrix by an incision through the perineum. Afterwards, a gum catheter must be retained for some time. He limited the operation, however, to cases arising from laceration of the urethra.

It was very desirable to ascertain, first, the degree of freedom from danger of this operation; second, the probability of permanent relief which it afforded. In Mr. Syme's hands, the operation appeared to have been remarkably successful; but the results had been so very different in the hands of other surgeons, especially in London, that the subject required a very searching investigation. Perhaps it might all be explained by the more bracing air of Edinburgh. Instead of being a simple means of cure, as it had been represented to be, and no doubt was in the hands of Mr. Syme, it had proved in London nearly, if not quite, as fatal as the operation of lithotomy. The causes of death had been phlebitis and purulent infection; and sometimes alarming hemorrhage had occurred. Urinary extravasation and abscesses had also been produced. These had occurred too often to be, as had been alleged, the result of accident, and not chargeable to the operation. The patients on whom the operations had been performed had long suffered from intractable strictures; their health was broken; and the parts through which the incision was made had been in a state of long-continued disease; these circumstances, and the condition of hospital patients, might account for the more unfavourable results.

The ultimate effects had certainly not been so satisfactory in London as in Mr. Syme's cases. In the first patient on whom Mr. Fergusson operated by Mr. Syme's method, the stricture returned with nearly its original severity. Not only in London, but in Edinburgh, had there been fatal results; as the case of Dr. Mackenzie in the latter city. In Mr. Miller's case, which was operated on by Mr. Syme, the patient certainly had a narrow escape with his life. He suffered from abscesses a long time, and was in a very precarious state. Many cases, of the nature of those operated on by Mr. Syme, would be equally restored by a careful use of potassa fusa. With regard to ultimate success, some strictures would recontract, notwithstanding whatever means were employed; and it was not unlikely that contraction would recur in some of Mr. Syme's cases, in two, three, or four years. Sir B. Brodie had stated that, after the performance of this operation for stricture from lacerated urethra, the patient must continue to use a bougie, and must only expect to be able to pass urine by the introduction of a moderate-sized instrument.

Mr. Syme had said that all strictures were tractable in his hands. Mr. Wade would ask how Mr. Syme knows that, in the cases in which he used a small director, the instrument really passed along the natural passage into the bladder? In some cases, the urethra was not only highly contracted, but also almost distorted; and it was very difficult to guide an instrument through such a labyrinth. In cases of entire obliteration of the urethra, with fistulous passage of urine behind the stricture, would Mr. Syme endeavour to force a passage through the obstruction, or have recourse to the old operation for perineal section?

Mr. Solly said, that the paper read had appeared to prove the operation to be less dangerous than surgeons were in the habit of considering; but the operation was probably attended with greater danger than Mr. Syme's cases would lead us to suppose. It would be interesting to have the results of Mr. Syme's hospital practice, and to know in what cases he considered the operation necessary. He (Mr. Solly) believed that, as a rule, the bougie alone was sufficient, if patience were exercised. By beginning with a small catgut bougie, and gradually increasing the size, there was scarcely any stricture which might not be overcome. The plan of Mr. Wakley, of passing a small instrument through a larger one, was worthy of attention. Mr. Solly had employed it with advantage. As far as his experience went, when once an instrument could be introduced, division was unnecessary. There were, no doubt, cases of irritable stricture, in which the perineal operation might be necessary; and in those cases, of the existence of which every London surgeon must be aware, in which the stricture was absolutely impermeable, the operation would be both necessary and advantageous. At the same time, other operations had been performed, as puncturing the urethra posterior to the stricture. He feared that the junior members of the profession would think the operation universally successful, and have recourse to it on insufficient grounds.

Mr. Coulson hoped that we should be able to determine to what class of cases Mr. Syme's operation was proper. The external division of stricture had been recommended in 1811, by Mr. Chevallier; but he confined this practice to cases complicated with perineal fistula, chiefly to those produced by external violence. In 1822, Mr. Arnott read a paper before the Society, advocating the division of stricture from without; he recommended it, not as the means of removing retention of urine, but of curing stricture before it became unmanageable; but only when no reasonable hope of cure from caustic could be expected. In the following year, the late Mr. Shaw recommended that the operation should be had recourse to before the tissues had become so indurated as to render the operation almost useless. It was undeniable that certain forms of stricture resisted all ordinary modes of treatment. Were these to be abandoned to their fate, or were there effectual means of relief? He would not hesitate to have recourse to the plan of Mr. Syme in such instances.

There were three classes of cases in which Mr. Syme's operation was applicable. The first class consisted of those in which the urethra was all but obliterated by chronic inflammation of the mucous and submucous tissues. In the second class, not only was the urethra involved, but the submucous and spongy tissues were converted into a hard fibrous mass. These could not be cured by ordinary means. The third class of cases consisted of those in which there was fibro-elastic tissue, more like India-rubber, where the stricture easily yielded, but immediately returned. Temporary relief might be obtained, but not permanent cure. Attempts at dilatation were followed by severe constitutional irritation, very often by retention of urine.

Much had been said about the severity of the operation. Mr. Coulson had performed it as often as any other surgeon in London. One of his earliest cases had been fatal, from purulent infection; another had nearly died from hemorrhage. Hemorrhage he believed to be the only danger to which the operation was exposed; and, if carefully dealt with this need not be feared. There might be some little difficulty in introducing the catheter after the operation into the posterior portion of the urethra. To obviate this, he had introduced the director along a small grooved tube, before withdrawing it.

Mr. T. Wakley, as a visitor for the evening, was anxious to make a few remarks. They had heard of a family of Blanques treated by Messrs. Blanque, eminent London surgeons. Now, as the results of the operation had been so different in London and in Edinburgh, he thought that a searching inquiry was called for into the circumstances of the cases, and that, to enable this to be accomplished, Mr. Syme ought to have stated the names of some of his patients, and of all the surgeons to whom he had referred. (Order, order.)

The President stated that the means had been furnished; but he had not judged it proper to allow the usual practice to be departed from by giving names publicly in the Society. Surgeons referred to by name in that way in their absence might with justice complain. It would be unusual and improper.

Mr. P. Hewett said, that such a course as that proposed by Mr. Wakley never had been allowed in that Society. (Hear.)

Mr. T. Wakley—I will, then, ask Mr. Syme if he sent a challenge to the London surgeons. (Order, order.)

The President having again interposed, Mr. Wakley sat down, after remarking that he saw clearly that he was not likely to get a fair hearing.

Mr. Henry Smith had seen five cases of perineal section, in which the operation had been skilfully performed. One of them was the case referred to by Mr. Coulson, in which the patient nearly died of hemorrhage. With reference to contraction of the urethra after the operation, he (Mr. Smith) had last week seen a naval officer, on whom he had assisted in performing the perineal section in November, 1848. No bad symptoms followed, and the patient went to sea; and when again seen by Mr. Smith, in September, 1851, he stated that "he was nearly as bad as when the operation was performed." He had passed an instrument for a year, remaining perfectly well; but had afterwards neglected it, and the stricture had returned. Only a No. 3 bougie could be passed. Last week, only a No. 4 instrument would enter, and there was much difficulty in passing urine. He had seen two fatal cases.

Mr. Gay thought that the discrepancy between the results of Mr. Syme's operations and those of English surgeons might be accounted for by considering the different conditions of the patients. Mr. Syme's patients were in a better class of society, and more able to bear operation than those of English surgeons, who had been mostly hospital patients, in whom hemorrhage, inflammation, and all the mishaps of operation were more likely to take place. A more accurate judgment of the value of the operation would be formed from an account of Mr. Syme's hospital cases. It was not necessary that an operation should be always successful to render it a good one, and the occasional fatal results should not lead us to reject the operation in suitable cases. He would also ask in what cases Mr. Syme would *not* perform the operation, as well as those in which he would do so. Mr. Syme had referred to a case which had been under his (Mr. Gay's) care. The operation had in that case been eminently successful; and he thought it his duty to bear this testimony. He trusted that in future all acrimony would be banished from discussions of this subject.

Mr. Syme begged to express his grateful sense of the kindness with which his communication had been received, and also the extreme satisfaction he had felt from the tone and temper in which the subject had been discussed. It was peculiarly gratifying to him that the gentlemen who had devoted so much attention to the treatment of urethral diseases, as Mr. Coulson and Mr. Gay, should express sentiments so favourable to his proposal. He certainly participated in the wish of the latter gentleman, that for the future the treatment of stricture by external incision should be discussed solely with reference to its own merits, and entirely free from personal considerations. For his own part, he had always been desirous to avoid saying anything personally offensive, and he was not aware of having ever done so. But if a single word or expression could be pointed out to him as admitting of such a construction, he would be most willing, and, indeed, anxious, to withdraw it. He hoped the Society would no longer regard the operation he had proposed as a formidable gash of the perineum, rivalling the wound of lithotomy, and exposing the patient to danger from hemorrhage as well as extravasation; but, on the contrary, clearly understand that it was an incision always anterior to the bulb, and, therefore, implicating a very inconsiderable thickness of parts, which might be cut with perfect safety. The unfavourable results of the operation in London were rather a delicate subject for him to enter upon, as he could not avoid attributing them to a want of due attention to the points which he had endeavoured to inculcate for safety and success. If the contraction were not fairly divided, there would be risk of extravasation, even with the protection of a catheter; and if the knife were allowed to glide past the conductor, it might readily cut the artery of the bulb; in which case plugging the wound would become requisite, with a great risk of extravasation. In short, he believed that the operation, if correctly performed, was perfectly safe, but, through a very slight deviation, might place the patient in the greatest danger. But if he had been correctly informed, that, in one of the London hospitals, a small silver catheter had been used as a guide, instead of a grooved director, he could not be surprised at the results not being satisfactory.

As to the case operated upon by himself in Edinburgh, and published by Professor Miller as an escape from extreme danger, he believed that the nervous symptoms described in his paper had imposed upon Mr. Miller; who, so far as he knew, had had no farther experience of the practice than this single instance which he had witnessed as the family attendant. He did not believe that there had been the slightest ground for serious apprehensions in this case; and as the patient, after being for a year under this treatment by Mr. Liston without relief, had been restored to perfect health by the operation, he thought that, instead of being quoted as an objection to its practice, it should rather be regarded as a very favourable example of success. With regard to the results of his hospital experience, he could assure the Society that they had been in nowise inferior to those he had preferred relating from private practice, on account of the greater facility of reference. He could also assure the gentleman who put the question as to the proportion of cases treated in his practice by dilatation and incision, that the latter bear a very small ratio to the former, in confirmation of which fact he might appeal to one of his colleagues in the Royal Infirmary, Dr. Mackenzie, who was present. As to the treatment of obliterated urethra, when this canal was truly closed through part of its extent, the operation for stricture was not applicable; all that he contended for being, that, where the water got out, a bougie might be got in. The only cases of stricture which he should think beyond the reach of benefit from this operation were those where organic disease existed in some other part of the urinary organs. It was well known that the presence of a stone in the bladder prevented the successful treatment of stricture; and it was, therefore, reasonable to expect that chronic irritation in the kidneys, or elsewhere, might produce a similar effect. In conclusion, he begged to express his hope that the unmeaning title of "Perineal Section," which had originated with the opponents of the operation, would be banished from surgery. He had no objection to the terms "urethrotomy" or "operation by external incision."—*Association Medical Journal*, April 29, 1853.

As connected with this subject we give the following letter from Mr. Miller to the editor of the *Lancet:*—

In your report of the discussion at the Royal Medical and Chirurgical Society, on the 26th ult., in the last number of the *Lancet*, the following passage occurs:—

Mr. Syme stated: "As to the case operated upon by himself in Edinburgh, and published by Professor Miller as an escape from extreme danger, he believed that the nervous symptoms described in his paper had imposed upon Mr. Miller, who, so far as he knew, had had no farther experience of the practice than this single instance which he had witnessed as the family attendant. He did not believe that there had been the slightest ground for serious apprehensions in this case; and as the patient, after being for a year under this treatment by Mr. Liston without relief, had been restored to perfect health by the operation, he thought that, instead of being quoted as an objection to its practice, it should rather be regarded as a very favourable example of success."

In reference to this passage, permit me to observe:—

1. I am well satisfied that I was *not* "imposed upon" by "the nervous symptoms." They ("a curious train, consisting of rigors, bilious vomiting, suppression of urine, and delirium") certainly did occur; and that they did not cause unnecessary or unfounded alarm was amply shown by their having been followed by perineal abscess which required incision, by pelvic abscess which was opened and discharged very copiously from the rectum, and by a painful as well as protracted and critical recovery.

2. I was not a mere "witness" "as the family attendant." The patient had been under the late Mr. Liston, and afterwards under my care. Extreme irritability of the parts prevented all systematic attempts at cure. At my request he came to Edinburgh, with a view to consider the propriety of his submitting to the treatment by incision, then coming into use. On his arrival, Mr. Syme was, at my suggestion, called into consultation along with me; and the operation having been determined on, it fell to be performed by Mr. Syme, as the senior surgeon, and the author of the mode of treatment. The patient was attended by me throughout his whole illness.

3. My personal experience of this operation is limited, simply because I have not found occasion, in all the cases of stricture recently under my care, to adopt any other treatment than that by the bougie. In certain extreme cases I should not hesitate to resort to the use of the knife; but such cases have not occurred to me.

4. I am sorry to say that the case in question cannot be "regarded as a very favourable example of success." The urethra has now contracted to a considerably smaller caliber than that which was gained by the operation; the bougie is not passed without difficulty and suffering; and it will require much care to prevent decided relapse of the disease. I am, &c.,

JAMES MILLER.

EDINBURGH, *May* 9, 1853.

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35. *Dislocation of the Metatarsus.*—Mr. J. TUFNELL communicated to the Surgical Society of Ireland (Feb. 12, 1853) the following case of luxation of the metatarsal bones of the foot downwards and backwards, the result of external violence. The case we believe unique:—

"T. D., æt. 26, a middle-sized, well-made man, was returning off duty to Portobello Barracks, Nov. 30, 1851. He was walking his horse near the side of the canal, when suddenly, the road being very slippery from frost, the animal came down upon his off side, falling with his whole weight upon the patient's right leg and foot, crushing it against the ground. The horse rose upon his legs, the patient remaining in the saddle, but from the agony he was suffering, having no power over the animal, who reined back into the canal, his hind legs dropping in off the bank. In the struggle which ensued, the patient became disengaged from the saddle, and was left floundering in the water, the horse making his own way up, and the patient being dragged out. From the spot where this occurrence took place to the hospital to which he was conveyed, is but a short distance, and he was seen by Dr. Dolmage in a very few minutes, and before any considerable degree of swelling had taken place. The foot was curved inwards and bent, a large bony projection rising on the tarsus, with a sharp edge anteriorly, overhanging the metatarsal bone of the second toe. In the sole of the foot, deep under the plantar muscles, a hard bony projection also could be felt.

"Reduction was attempted by placing the patient on his back, fixing the pelvis, and flexing the leg upon the thigh. Extension by pullies attached to the phalanges of the great and adjoining toes was then made, and persevered in for a considerable time, during which every possible movement likely to favour restoration of the parts by flexion of the metatarsus upon the tarsus was resorted to, and leverage also made directly upon the dislocated extremity of the metatarsal bone of the great toe, where projecting in the sole by means of a ruler applied to it, and drawn upwards and forwards, whilst the clasped hands of a strong assistant placed upon the instep, held that part downwards and backwards. As great force as it was considered justifiable to employ, was expended in the effort at reduction, but not the slightest alteration in the position of the bones was effected. Considerable effusion and ecchymosis followed, the latter extending up almost to the knee. Leeches, fomentations, &c. &c. were prescribed, and the ordinary treatment for violent contusions had recourse to. Under this treatment swelling subsided, and on the 14th of February (ten weeks from the accident) the foot presented the appearances represented in the cast,[1] which was taken this day, and during which time the patient had been confined entirely to bed by suppurating bubo in the opposite groin.

"All swelling and thickening were now gone, the outline of the tendons and every portion of the extremity being most accurately defined. In its general aspect, the foot somewhat resembled a case of pes equinus, being considerably shortened and arched upon its inner border, the distal extremity of the metatarsal bone and first phalanx of the great toe being adducted, the last phalanx at the same time pointing somewhat outwards. The instep bore a natural appearance from the malleoli to the extremity of the internal cuneiform bone, which projected in a sharp point anteriorly, raising the integument which was stretched over it, white and glistening, like a tightly bent knuckle; and from the outer border of the cuneiform bone ran an evident ridge, marking the division between the tarsus and the metatarsus, and defining the line for Hey's amputation of the foot.

"In consequence of the bubo in the groin, the patient had made no effort to walk; but upon the few occasions on which he had tried to use the limb, supported by crutches, he had found a total inability to move otherwise than on the heel, in consequence of pain of a burning lancinating character being produced in the sole of the foot whenever he attempted to throw any weight upon the toes, and place the plantar structures on the stretch.

"I saw this man subsequently in June, when I obtained a second cast of the foot. It had now become more inverted, and the projection in the sole was less evident, having been rounded and partly removed by absorption. He walked freely with a stick, bearing his weight on the outer border of the foot, as in a case of talipes varus, but he could not move or make any effort when the foot was placed flat upon the ground, from the same burning sensation already alluded to, and which he described as resembling the feeling that might be imagined to result from attempting to walk in a very tight boot, with a marble under the sole of the foot.

"Mr. Adams said that the case adduced by Mr. Tufnell was unique, and that, as far as he knew, nothing *precisely* similar had been recorded. The three examples of displacement of the metatarsus reported by Dupuytren, and the two additional ones described by Dr. R. W. Smith, were all dislocations of the metatarsus upwards on the dorsum of the tarsus, which we know to be the reverse of what had occurred in Mr. Tufnell's case, just related. In this last case, the instep seemed preternaturally high, and the sole hollowed; whereas, in the five other examples of dislocation of the metatarsus upwards, the instep seemed low, and the sole of the foot, as Dr. Smith had shown, remarkably convex. There is one more point of difference, which perhaps ought here to be adverted to, namely, that Mr. Tufnell's case seemed to be a simple dislocation downwards of the metatarsus; whereas, in Dupuytren's and Smith's cases, the internal cuneiform bone retaining its connection with the bases of the metatarsal bone of the great toe, was dislocated upwards in company with the metatarsus. As to the surgical treatment of these injuries, if we permit ourselves to draw any inference from the few cases before us, we may conclude, from the result of Dupuytren's first case, that dislocation of the metatarsus upwards may be easily reduced, if the accident be seen early, and properly treated; but that if the case be neglected for three weeks, as was the case in the second example of this accident met with by Dupuytren, that then the reduction of the dislocation will be found difficult or impracticable. As to the means which were used, or omitted in Dr. R. W. Smith's cases, I believe nothing is accurately known. The value of these two facts consists in the accurate *post-mortem* examination which was instituted. As to the surgical treatment in the case of dislocation of the metatarsus downwards, we know of but one (Mr. Tufnell's case); and although the most energetic efforts were made to replace the bones a few moments after the accident had occurred, still these means failed; however, it is reasonable to hope that the patient will in time (as occurred in Dupuytren's case) regain fair use of his foot in progression. There is one practical point we should attend to, should we reduce the dislocation of the metatarsus, whether the displacement be upwards towards the dorsum of the foot, or downwards (as in Mr. Tufnell's case), namely, that there is great mobility of the bones of the foot to be expected after the reduction of the dislocation. Dupuytren found that in the case of the patient in whom he was happy enough to reduce the dislocation, that the foot was found immediately afterwards very movable in the metatarsal line of junction of the bones. He therefore found it necessary to enjoin absolute repose, and to apply bandages, but ultimately recovery was complete.

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[1] This cast is in the Museum of the Royal College of Surgeons, Ireland.

"Mr. Tufnell—In the course of six months after the injury, he gradually brought himself to walk on the outer border of the foot, and in June, 1852, when I last saw him, he could walk pretty well with the aid of a stick."—*Dublin Med. Press*, March 9, 1853.

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36. *Reduction of Old Luxation of Lower Jaw, by Means of M. Stromeyer's Apparatus.* By M. Bouisson, Prof. Clin. Surg. to Fac. Med. of Montpelier.—Examples of reduction of old luxations of the lower jaw are still by no means common; so also are cases in which Stromeyer's apparatus has been used. Adding a new and certain mode to those which science already possesses, will encourage practitioners not prematurely to renounce their attempts to reduce old luxations of the lower jaw. A new and progressive view of the mechanism of old luxations has been taken, and the assumed difficulty in reducing these luxations depends more upon the imperfection of the instruments used, than upon the obstinacy of the luxations themselves. Nowadays, the application of the anæsthetic agent permits us to go farther than we otherwise would, and multiplies our chances of success, by allowing us to act on the luxated bone in the suitable direction, and with proper instruments.

Case.—Françoise Arnaud, from St. Lamert (Gard.), entered the Hospital of St. Elai, in Montpelier, on the 16th of February, 1852. She is aged 31, has always enjoyed good health, and is of lymphatic temperament. When interrogated as to her previous life, she mentioned a circumstance which appeared to have made but slight impression on her, but which proved that she was disposed to luxations of the lower jaw. She stated that about five years before, after an intense and prolonged fit of yawning, she was seized with sudden immobility of the lower jaw, accompanied by great distension of the mouth. Ignorant of what ailed her, she endeavoured of herself to restore parts to their natural position; she pressed her chin firmly against her breast, and suddenly applying both hands with all her strength, succeeded in causing the appearances mentioned to disappear. This first luxation, for which the patient had not consulted a surgeon, was not followed by any disagreeable consequence.

On the 20th of December, Françoise Arnaud, when endeavouring to take an unusually large bite of a pear, which she was eating, found her jaws widely distended, and as firmly fixed and immovable as they had been on the former occasion; but this time these symptoms were accompanied by severe pain in the temporo-maxillary articulation, extending towards the temple and orbit. The patient, who lived in a village in the department of Vaucluse, sent for the nearest medical man. As speaking was accompanied by the greatest suffering and difficulty, she neglected to inform this practitioner concerning her former accident.

On this account, perhaps, mistaking the nature of the case, and believing it to be a nervous affection, he made no attempt at reduction; he confined himself to directing the application of ten leeches behind each ear and to the fossa parotidea; a warm poultice to be afterwards applied. Of course, no alleviation of the symptoms followed this treatment, which was blindly persevered in. About three weeks after the accident, the patient, disappointed at finding herself still in the same state, consulted another medical man, who unfortunately entered into the views of his *confrère*, and thought fit to continue the application of leeches, which had been discontinued for some time. Perhaps the inflammatory symptoms, or the severe pain, accompanied by swelling of the surrounding parts, suggested the idea of this antiphlogistic treatment, which was actively persevered in; but the patient's own assertions are not favourable to this supposition. The nature of the lesion was completely misunderstood, not the least attempt having been made at reduction.

On the 18th of February, Françoise Arnaud decided on going to Avignon for the purpose of seeking relief from the misery which she endured. The surgeon consulted, at once perceived the case was one of complete luxation of the inferior maxilla, and immediately attempted the reduction of the bone. The manœuvres attempted not being sufficient to disengage the condyles, the patient was bled, and belladonna friction directed over the region of the masseters, for the purpose of overcoming muscular resistance. The patient returned to her village, when these frictions were continued for some days. The reduction was again attempted, and, for the purpose of acting more strongly on the jaw, the handle of a knife was introduced into the mouth between the dental arches, to serve as a lever to depress the bone. The loss of three molar teeth of the upper jaw, and one of the lower, on the right side, followed these attempts; at the same time, not the least advance was made towards the reduction.

Françoise Arnaud again returned to Avignon, to seek the assistance of M. Pamard. My *confrère* and friend attempted the reduction with his usual ability, but his efforts were unavailing, for he found it impossible to dislocate the maxilla from its new position. M. Pamard, who had not at his disposal M. Stromeyer's apparatus, thinking that the patient would find every applicable resource at Montpelier, sent her to me. She presented the most evident symptoms of luxation of both condyles of the jaw. The mouth was open; in front, the jaws were two-thirds of an inch apart; this distance diminished towards the molar teeth, which were almost in contact; the lower projected also two-thirds of an inch beyond the upper. The teeth did not correspond, the lips could not be approximated, and very considerable difficulty attended any attempt at articulation. The patient could take none but liquid food. In front of the ear, on a level with the condyles of the inferior maxilla, there was a depression; the temporal muscles were tense, and formed a well-marked projection; the coronoid processes could be felt distinctly projecting forwards, by introducing the fingers into the mouth. The general state of the patient was favourable; everything considered, she had suffered but little. She felt slight pain on a level with the luxated articulating surface, and in the surrounding textures. No doubt could exist of the nature of the lesion, so, on the day of the patient's admission into hospital, I attempted the reduction. My attempts were made in the usual manner, and in the way most likely to disengage the coronoid processes from their relations to the malar bones. For the better carrying out of my intentions, the patient was seated on a low stool; this was done that the more efficient pressure might be kept up on both sides of the jaw. The only effects of these attempts were, tiring myself, and distressing the patient. Therefore I resolved, on the following day, to apply Stromeyer's apparatus, as I considered it the only means by which the organized adhesions of the condyles and the muscular resistance could be overcome. This instrument, made of steel, is composed of two blades, terminating at their anterior or buccal extremities by a plate, to which is given the parabolical curve of the dental arches; they should be well padded with chamois leather. These blades articulated in their middle without crossing. This articulation presents a *point d'appui*, by which the surgeon acts (as with a lever of the first order) upon the opposite extremities of the blades, which blades are kept separated by a spring. Pressure, by approximating the anterior extremities of the instrument, necessarily separates the posterior ones, and by that means allows us to make use of this simple mechanism so as to act on the dental arches, between which the blades, when closed, are carried. By this contrivance, the depression of the lower jaw is effected.

To act more gradually and forcibly, pressure can be used by means of a screw and nut; the end of the screw fits into a depression on the lower blade, and is retained there by a screw; the other end goes through a hole in the upper blade, and the nut, screwed down from above, presses on it, and so closes them. The instrument should be introduced into the mouth closed. When it is properly adjusted, the nut is screwed down as far as it is desirable to separate the parabolic plates; and after the reduction, as it would be painful to withdraw the instrument open, the screw which acted on the lower extremity of the pin should be loosened; the spring then acts, and quickly brings the posterior extremities of the instrument to their original distance of separation, and of course closes the instrument at the other end, so that its removal from the mouth is easy.

I borrowed the instrument described above from the Museum of the Faculty, and on the 18th of February, at the morning visit, I applied it to the patient. I immediately entertained a high opinion of its efficacy, for I could separate the molar teeth, which I was unable to do with my thumbs; but this action was accompanied with very great pain, and by violent contraction of the temporal and masseter muscles. I then believed it prudent to suspend the operation until the patient was under the influence of chloroform, when I could easily overcome the muscular resistance, and when the patient would be spared needless suffering. The operation was deferred till the end of the visit.

Operation.—Françoise Arnaud was brought into the operating theatre; I placed her in the horizontal position, and put her under the influence of chloroform. At the end of three minutes, insensibility and muscular relaxation were apparent. I then introduced Stromeyer's apparatus into her mouth, and having forced the anterior blades, approximated, between the molar teeth, I separated them by pressure. The inferior maxilla sunk, and yielded little by little; when I considered this separation sufficient, I intrusted the instrument to an assistant, and having made pressure backwards and downwards for a little time, both on the body and on the blades of the instrument, the bone sunk into its normal position. Immediately the instrument was removed from the mouth, and it was at once perceptible by the correspondence and approximation of the dental arches, that the reduction was then regular and complete; the mouth was shut, and the lips met naturally. This result was obtained without the least pain, and unknown to the patient, who awoke delighted and astonished at finding herself thus instantaneously cured.

The dressing consisted of a bandage, and compresses dipped in cold water, applied to the temporo-maxillary region. For a day or two there was slight pain in the part, but neither inflammation nor swelling supervened. The patient was put on liquid diet, and recommended not to open her mouth widely. On the third day the pain was completely gone; the motions of the jaw were perfectly free, and regular nourishment was permitted. The patient remained in hospital for a few days, that there might be no doubt as to the permanency of her cure.

On the 26th, the patient possessed complete power over the jaw, and could masticate solid food. She then left the hospital.

I shall add a few observations on this authentic case. Books on surgery contain but three or four cases of reduction of old luxations of the lower jaw. The greater number of surgeons direct that, if the luxation has existed more than one month, no attempt should be made at reduction. In a case of the same kind, when M. Stromeyer for the first time used his parabolic plates, the accident was not of a month's standing. In this second case, which I furnish, more than twice the specified time had elapsed between the time of the accident and the reduction; still, this instrument proved as efficacious and prompt as in the first case. These results of our observation, facilitated by the intervention of chloroform, tend to increase the extent of surgical mechanism applicable to old luxations, especially the one which now occupies us. By these considerations, I conceive the following conclusions are justifiable: That reduction of luxations of the lower jaw are not only practicable, but easy, two months after the occurrence of the accident; that the most approved mode of operating is with the lever and parabolic plates; that the application of anæsthetic agents increases our chance of success in the operation. S. J.—*Dublin Med. Press,* March 9, 1853.

37. *Congenital Displacement of Head of Femur.*—Dr. MERCER ADAM exhibited to the Edinburgh Physiological Society, a dissection he had made, of a fœtus having congenital displacement of the head of the femur (*luxation originelle* of Breschet, etc.) on both sides. Opportunities of examining this malformation in fœtal life, as was long ago observed by Dupuytren, were very rare; hence the present case was interesting. The head of the femur was displaced from a well-formed cotyloid cavity, and lay on the dorsum of the ilium, where it had formed for itself a new cartilaginous acetabulum. The muscles of the thigh and gluteal region were very much atrophied and contracted. Owing to the contraction of the rectus femoris, the patella and head of the tibia were drawn up over the condyles of the femur, and the knee-joint in consequence could not be flexed. The axis of the neck of the femur was abnormal, being placed nearly horizontally in relation to the shaft of the bone, instead of its natural oblique direction. The ligamentum teres was elongated, thicker, and stronger, than is usual in fœtal life. This seemed to confirm the views entertained of its function as a purely suspensory ligament, and evidenced in a remarkable manner the provision made by nature to counterbalance the malformation; for, had this child lived, the whole weight of the body must necessarily have been supported by this ligament, which was formed of unusual strength for this end. From the immobility of the knee-joint the fœtus had been unable to assume its normal ovoid form while *in utero,* and accordingly a false joint had been formed in the lumbar region of the vertebral column, to enable the child to adapt itself to the cavity of the uterus. Mr. Adam made a few remarks on the probable etiology of such cases; and considered that in the present case the displacement had been caused by the abnormal retraction exercised on the head of the bone by the contracted condition of the muscles affixed to it. The position of the fœtus in utero, as it lies with the legs flexed on the abdomen, was the position of all others which would predispose the head of the femur to slip out of the acetabulum, and to mount upwards and backwards, as in this case, on the dorsum of the ilium.—*Monthly Journ. of Med. Sciences,* May, 1853.

38. *Treatment of Dislocation Complicated with Fracture.*—M. RICHET, at a meeting of the Surgical Society of Paris, in 1852, reported in one of the numbers of the *Union Médicale,* read a memoir on the possibility of reducing dislocations of the humerus and femur, when complicated with fracture of the bone in the vicinity of the joint. He gave as his opinion that, by placing the patient under the influence of chloroform, and employing coaptation, without extension, the dislocation might be reduced before the fracture, in opposition to the doctrines of Boyer and Dupuytren. M. Richet employed this method successfully in a case of dislocation of the humerus with fracture of the surgical neck. He also demonstrated the practicability of the proceeding by experiments on the dead body. He proposed to apply the plan of coaptation to the treatment of dislocation in general, whether complicated with fracture or not.

In reporting on the essay of M. Richet, M. Gosselin stated the principal merit of the author to consist in having brought forward a plan of treatment which had indeed been employed by other individuals, but which was not generally known, from the cases being published in periodicals and theses, and hence inaccessible to many members of the profession. He objected to the use of chloroform so frequently as recommended by M. Richet; and believed that reduction by coaptation could often be accomplished during the state of prostration succeeding the injury. He thus summed up the proper treatment of fracture complicated with dislocation. "As soon as the lesion is discovered, no matter at what time, reduction by coaptation should be attempted, chloroform being given, if not contraindicated; and the operation should be repeated several times, if it does not at once succeed. If reduction is not obtained, and the upper fragment of the bone is large enough, extension should be combined with coaptation; the application of the starched bandage (*appareil inamovible*) is useful. If we do not then succeed, we must wait until the fracture is united, and then attempt to reduce the dislocation; and, if we then fail, we must favour by passive motion the formation of a false joint."

In the *Revue Medico-Chirurgicale* for February, 1853, M. MALGAIGNE gives a summary of the present state of knowledge on this subject; and adds the results of his own experience.

In seven years, he has had under his care, in the hospital of St. Louis, thirteen cases of dislocation complicated with fracture, viz., one case of dislocation of the fourth cervical vertebra with fracture of the posterior arch; one of dislocation of the sacrum with fracture of one ilium; one of dislocation of an arm with fracture of a leg; one of dislocation backwards of the elbow with fracture of the forearm; one of dislocation backwards of the elbow with fracture of the radius; one of dislocation forwards of the radius, with fracture of the forearm; one of dislocation with fracture of the radius; three of dislocation of the lower end of the ulna with fracture of the radius; one of dislocation of the knee with fracture of the leg; one of dislocation of both knees with fracture of the left leg and arm; and one of dislocation of the tibio-tarsal joint with fracture of the tarsal bones.

Among these cases, those are the most frequent in which the fracture affects the luxated bone; this is most commonly found in the arm, then in the forearm, thigh, and leg.

From the attention of the surgeon being directed to the fracture, often to the exclusion of the dislocation; from the swelling being more rapid and considerable than in simple cases; and from the pain of the dislocation being masked by that of the fracture, the luxation is often not detected by the surgeon; and M. Malgaigne acknowledges that he has erred in this way in a case of dislocated humerus, and in one of dislocation backwards of the head of the radius.

When dislocation with fracture is recognized, how is it to be treated? Pasicrates, who wrote about half a century before the Christian era, and Oribasius, advise that the dislocation should be first reduced; and then the fracture. Aristion preferred extension, so as to act on both at the same time. Celsus and Galen say nothing of the subject; and Paulus Egineta and Haly Abbas give very meagre instructions. Guy, of Chauliac, writes: "If dislocation is complicated with fracture, let the dislocation be first reduced, and then the fracture, if possible. But, if otherwise, let the fracture be reduced; and when the callus is firm, the dislocation may be treated." J. L. Petit quotes this precept, and adds that reduction of the dislocation is impossible when the fracture is near the joint. To this M. Malgaigne objects, first, that it is not the distance of the fracture which forms the great obstacle; secondly, that it is rarely that reduction must be effected by extension. Boyer properly admits that the luxations of the ginglymoid joints can be reduced without extension; but, with regard to the ball and socket joints, he says that dislocations cannot be reduced while fracture exists, and that, when the callus is solidified, the length of time opposes an obstacle. Sir A. Cooper advises immediate reduction of the dislocation in all cases, from fear of reproducing the fracture, if extension is employed subsequently.

In recent cases of dislocation, M. Malgaigne observes that mild means succeed best; such as pressure, impulsion, and rotation; and that the ball and socket joints are as amenable to this treatment as the others.

Delamotte, in his *Traité de Chirurgie*, relates a case of dislocation of the humerus, complicated with fracture of the bone near the junction of the upper with the middle third, and with fracture of the clavicle. The dislocation was reduced by an assistant pressing firmly on the acromion, while Delamotte "drew the head of the bone downwards, at the same time pressing it upwards;" in fact, by a movement of rotation. Laroche (*Thése Inaugurale*, Strasbourg, 1803) had a case of dislocation of the humerus under the clavicle, the bone being also broken at the lower third. Having had the acromion fixed, he pushed back the head of the humerus into the glenoid cavity. James Gordon (*Trans.*

of the Medico-Chir. Society of Edinburgh, 1824) reduced in a similar manner a dislocation of the humerus, complicated with comminuted fracture of the bone. Houghton (*Lancet*, 1845) reduced on the tenth day a dislocation complicated with fracture four inches below the acromion.

Dupuytren (*Leçons Orales*, tome i. p. 85) asserts that when luxation of the humerus is complicated with fracture of the surgical neck, art and nature can do almost nothing. But, in 1777, Bottenheit reduced two cases, in which the fracture was as close as possible to the joint; and more recently, M. Baroni (*Gazette des Hôpitaux*, 1841, p. 192) has obtained a similar result on the sixth day. More recently, M. Richet (*Union Médicale*, 1853, p. 499) has reduced a dislocation of the humerus complicated with fracture of the neck of the bone, by pressing with the thumb on the acromion, and pushing the head of the bone outward and upwards with the fingers.

Luxations of the femur may be reduced in the same way as those of the humerus. In 1836, M. Etève had a case of dislocation backwards of the left femur, with fracture of the bone at the middle third, a penetrating wound of the knee-joint, and a fracture of the fibula on the same side. The patient was held firmly by two assistants who placed their hands under the axillæ; two others held a towel surrounding the thigh, between the dislocation and the fracture; while three others held up the limb, so that the thigh was bent almost at a right angle with the pelvis. After making gradual extension, the surgeon pushed with all his strength the head of the femur into the acetabulum, and reduction was instantly accomplished (*Gazette Médicale*, 1838, p. 751). Some years before this, Bloxam had reduced, on the eighth day, a dislocation of the femur on the pubes, with fracture above the middle third of the bone, by flexing the limb on the pelvis, and pushing the head of the bone downwards and backwards.

Examples of reduction of dislocation of the ginglymoid joints are more rare. Pézerat (*Journal Complementaire*, tome iv. p. 276), had a case of dislocation backwards of the radius and ulna, with fracture of both bones two inches above the styloid process. The dislocation was immediately reduced; but by what means is not stated. M. Malgaigne relates a case in which there was dislocation backwards at the elbow-joint, with fracture of both bones at their middle. M. Malgaigne chloroformed the patient, and readily pushed the bones into their place. The fracture was treated; and the patient nearly recovered the perfect use of the arm.

One case only of reduction of dislocation of the knee, with fracture, is known to M. Malgaigne. In 1850, a woman came under the care of M. Jules Guérin (*Arch. Gén. de Méd.* October, 1852, p. 152), with dislocation outwards of the left knee, and fracture of both bones of the leg at the middle. Slight extension was employed; and the luxation was reduced by rotating the leg from without inward.

Delamotte relates a case of dislocation of the foot with fracture of the leg three finger-breadths above the joint. He applied extension and counter-extension; and pushed back the dislocated bone with the palm of the hand. That the extension here, as in other cases, was not of much value, M. Malgaigne thinks proved by the fact, that Delamotte succeeded without it in reducing dislocation in an analogous case. M. Corbin, in 1843, communicated a similar case to the Academy of Medicine. Delamotte (*Chirurgie*, 1845) and M. Robert (*Journal de Chirurgie*, 1845) have reduced dislocations of the lower jaw, complicated with fracture.

In operating on these cases, M. Malgaigne recommends that chloroform should be used; that the fractured limb should be held by assistants; and that it should even be temporarily put up in an apparatus before the reduction of the dislocation is attempted. Gentle motion of the joint should be practised at an early period.

In dislocations of older standing, Boyer, Sir A. Cooper, and Dupuytren, discountenance attempts at reduction. In 1828, however, Warren reduced a dislocated humerus, where the bone had been fractured, at the end of seven weeks. In 1846, M. Malgaigne met with a case of fracture of the radius, with dislocation backwards of the elbow. He did not discover the latter accident until the seventeenth day; and when he then tried to push the bones into place he failed. He therefore waited until the fracture was united; and, on the thirty-eighth day, reduced the dislocation by extension and sudden flexion.

He also relates a case of dislocation of the radius with fracture of the fore-arm. Reduction of the dislocation was attempted after the union of the fracture; it was unsuccessful, but the power of motion was improved.

M. Malgaigne concludes his essay by referring to cases in which a false socket has been formed; and in some of which, MM. Riberi, Peyrani, and others, have successfully attempted, by perseverance in passive motion, to give to the limb a considerable power of movement.—*Association Medical Journal,* April 29, 1853.

39. *Fracture of the Femur in the last week of Gestation; favourable Parturition; rapid Union of Fragments.*—There is recorded in the *Lancet* (May 28, 1853), the case of a woman, 22 years of age, admitted into St. Bartholomew's Hospital, who in the ninth month of gestation accidentally slipped and fell, fracturing the lower third of her femur, at the same spot where it had been fractured nine years previously. Eighteen days after admission, she was delivered of a son without untoward symptoms. She suckled her infant; nevertheless, bony union was accomplished in about the usual time. On the twenty-third day after delivery, union was almost complete, and the patient was discharged, forty days after the accident and twenty-five after the birth of the child, with a firm limb.

40. *Excision of the Knee-Joint.*—On the 2d of April last, Mr. Fergusson excised the left knee-joint of a woman, 28 years of age, affected with disease of the joint, which had continued for several years, and had resisted the usual treatment. The diseased joint was larger than its fellow, and the patient suffered from pain in it, which was worse at night. Pressure on the patella produced a grating sound, and the slightest lateral motion could scarcely be borne, and distinct roughness was felt on attempting to bend the joint. There was little or no effusion in the joint. The patient's health was declining. The case terminated fatally on the sixteenth day.—*Lancet,* April 16, and May 7, 1853.

41. *On a Simple Method of ascertaining, without the Use of the Catheter, whether the Eustachian Tubes are pervious; with some Observations on the Treatment of Cases of Obstruction in these Tubes.* By Joseph Toynbee, F.R.S.—The author points out the objections to the two ordinary modes of exploring the Eustachian tubes—viz., that the use of the catheter is liable to produce pain and discomfort; that without experience it is not easy to ascertain whether it be really in the tube; that the plan of attempting to distend the tympanum by a forcible expiration, while the mouth and nostrils are kept closed, is not always successful, from the fact that the young and nervous cannot be taught to perform the act; and that sometimes, when it is properly done, the guttural orifices of the tubes seem to be pressed together so as to preclude the air from entering. In a paper recently read before the Royal Society, the author endeavoured to show that the guttural orifice of each Eustachian tube is generally closed, and that the air in the tympanum is not continuous with that in the cavity of the fauces, except during the momentary act of deglutition. In proof of this, the following experiment was cited: If the mouth be shut, and the nostrils be held closed by the finger and thumb, and then the act of swallowing be performed, a sensation of fulness or pressure is experienced in each ear; and this sensation does not disappear upon the removal of the pressure from the nose, but it vanishes at once when the act of swallowing is again performed, while the mouth and nostrils are open. During the first act of swallowing, a small quantity of air was forced into the tympanitic cavities through the Eustachian tubes, and it therein remained until the second act of swallowing again opened the tubes and permitted the air to escape. The muscles whereby the Eustachian tubes are opened are the tensor and levator palati, which it is well known take origins from the cartilaginous walls of the tubes. As, during the act of swallowing with closed mouth and nostrils, air is forced through the Eustachian tubes into the tympanic

cavities, it is evident that the permeability of these tubes can be ascertained by making the patient swallow some saliva while the mouth and nose are shut. Nor need the surgeon depend upon the statement of the patient respecting the sensation of distension felt in the ears; for by listening with the *otoscope*, should the Eustachian tubes be pervious, the air will be distinctly heard to enter the tympanic cavities, and produce a gentle crackling sound. The author next proceeds to consider the treatment of cases of obstruction of the Eustachian tubes, especially in reference to the use of the catheter. It having been ascertained that these tubes are obstructed, is it desirable to attempt to open them by means of the catheter? Believing that obstruction in the Eustachian tubes generally depends upon a thickened state of the mucous membrane covering the guttural orifice, and that this state is always associated with a thickened condition of the faucial mucous membrane and of the mucous membrane of the tympanum, the author suggests, especially to those inexperienced in the use of the catheter, not to attempt to pass this instrument—firstly, because, in such cases, the mucous membrane of the Eustachian tube is often so tumefied that no ordinary degree of pressure will force the air into the tympanum; and, secondly, because, should the surgeon succeed in transmitting a few air-bubbles, the relief obtained is only partial, and endures for a very brief period, since the mucous membrane remains as thick as before, and the ill effects of the obstruction soon recur, from the air in the tympanum becoming of a different density from that without. The membrana tympani becomes more or less fixed. The treatment recommended is such as shall tend to reduce the thickened mucous membrane of the guttural orifices of the Eustachian tubes to a healthy state, so that their muscles may be able to open them. For this purpose, besides the use of general remedies, the solid nitrate of silver, or a strong solution of hydrochloric acid, may be applied to the mucous membrane of the fauces and to the apertures of the tubes, and gentle counter-irritation is to be kept up over the region of the fauces. By these measures, as a general rule, the mucous membrane can be reduced to its natural state, and the tubes become again opened by their muscles. Should this not take place, the Eustachian catheter may now and then be introduced and air be gently blown through it. A modification in the shape of the Eustachian catheter is suggested—viz., that it should be oval instead of round, the advantages derived being that it not only can be passed through the nose with less discomfort to the patient, but its presence in the Eustachian tube is much less disagreeable from the absence of the convex surfaces which, in the rounded catheter, press against the nearly flat surfaces of the tube. In conclusion, the author expresses his concurrence in the opinion of Harvey and Kramer, that enlarged tonsils are never the cause of obstruction in the Eustachian tubes, and that any benefit that may have followed their extirpation has arisen from the loss of blood consequent upon the operation.—*Proceedings of the Royal Medical and Chirurgical Society*, from *Lancet*, March 22, 1853.

OPHTHALMOLOGY.

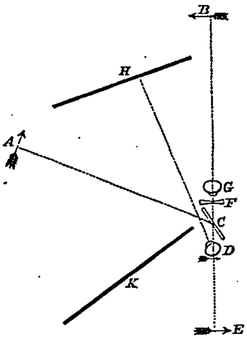
42. *Helmholtz's Speculum for Examining the Retina in the Living Eye.*—Dr. W. R. Sanders has given a description (*Monthly Journ. Med. Science*, July, 1852) of a new speculum, devised by Prof. Helmholtz, by aid of which he says he has been enabled to examine the structures in the posterior chamber of the eye, hitherto beyond our reach, and which opens a new field of valuable practical applications in physiology and ophthalmic surgery.

The new eye-speculum consists essentially of two parts: 1st. Reflectors, to illuminate the retina; 2d. Lenses, to bring its structures within our focus of vision.

Illumination.—The possibility of seeing into the posterior chamber of a living eye depends on the fact that the rays of light which pass into the eye, and fall upon the retina, are not completely absorbed there; but a portion of light is reflected from the retina, and passes out again through the pupil. According to the laws of optics, these reflected rays, in proceeding out of the eye, must pursue, in an opposite direction, exactly the same course which they took on entering it. Thus the rays from a luminous point fall diverging on the cornea, and are converged by the media of the eye to a focus on the retina; in return, the rays reflected from the retina pass diverging to the cornea, and, on leaving the eye, are converged to a focus at the luminous point from which they came. The same applies to a luminous body. The rays from a gas flame unite in a picture on the retina, from which the unabsorbed rays are reflected back to the gas flame, and concentrate there in an image of the picture on the retina; and the reflected image is placed on, and coincides in size and position with, the real gas flame. To see, therefore, into the posterior chamber of an eye, we must bring our vision in the strait line of the reflected rays. It is impossible, however, to do so directly, for we cannot interpose ourselves between the eye and the light without intercepting the latter. By approaching, indeed, as near as possible to this direct line, without being upon it, we may catch the irregular rays, and see the pupil of the observed eye illuminated, as Cumming[1] and Brücke's[2] observations have shown; but such methods are inconvenient, and the illumination obtained is insufficient.

By means of a plain transparent reflector, however, such as a piece of flat glass, we can place our vision in the direction in which the rays emerge from the observed eye. Thus let *A* (Fig. 1) be a flame, whose rays are caught at an angle on a glass plate *C*, the rays will be thrown along the line *CD* into the eye *D*, which will see an image of the flame at *B*, along the line *DB*; but the rays reflected from the retina passing out in the same line, *DC* will again meet the plate *C*; they will be in part turned towards *A*, but part also will traverse the glass plate *C*, and go to form a picture at *B* of the image on the retina; but an eye *G*, placed behind the glass plate and on the line *CB*, will meet these reflected rays, and will consequently see the posterior chamber of the eye *D* illuminated.

Fig. 1.



The experiment is thus performed: In a dark room, with a single flame at the side of the experimenters, and on a level with their eyes, the person whose eye is to be observed holds a piece of glass (a microscope glass slip), so as to catch the image of the flame on it; he then, by inclining the glass, brings the image of the flame opposite the pupil of the observer's eye; the latter will then see the pupil of the observed eye luminous, of a reddish-yellow bright colour, like what is called "cat's eye." A person may also see one of his own pupils luminous: standing before a looking-glass, and seeing the image of the flame in the reflector with his right eye, let him bring this image opposite the pupil of the left eye in the looking-glass; the left eye will then perceive the right pupil in the mirror luminous. The observer may also himself place the reflector when observing the eye of another person: by using a very small piece of glass, the reflection from this on a shaded countenance will indicate the direction of the light; and when it is thrown upon the centre of the eye, the observer looking through the glass will see the illumination of the pupil; and by turning the reflector in different directions, and allowing the observed eye to be moved, he may compare the amount of reflection from different parts of the retina.

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[1] Cumming—Medico-Chirurgical Transactions of London, vol. xxix. p. 283.

[2] Brücke—Müller's Archiv. 1847, p. 225.

To obtain the greatest possible amount of illumination, we may either employ a larger angle of reflection, or increase the number of glass reflectors. The most advantageous angles are given as 70° for one glass plate, for three glass plates 60°, for four glass plates 55°. Employing several glass plates is preferable to using a high angle; because the glass being less oblique is more easily seen through, the eyes are better shaded, and at 55° the polarized reflection from the cornea, which interferes with the observation, is nearly all stopped by the glass plate through which the other rays, depolarized on the retina, pass.

For these observations, a good oil-lamp or gas-lamp is best; sunlight, let in through a hole in a shutter, may also be used; the observed and observer's eyes should be carefully shaded, and, to prevent mistakes, the eyes not used in the experiment should be closed. This method of illumination is applicable to other cavities with narrow openings, as the ear, the nose, &c.

Lenses to bring the Reflected Rays to a convenient Focus.—The luminous rays emerging from the eye *D* (Fig. 1), and passing through the glass *C*, unite at *B* to form an image of the picture on the retina. But at the distance at which *B* is from the observed eye *D*, the pupil of the latter, which limits the field of vision, appears so small that the luminous image cannot be seen through it. We must, therefore, bring these rays to a nearer focus. Now the rays, on leaving the convex surface of the cornea, are convergent, and our eye can bring only slightly divergent or parallel rays to a focus; all that is necessary, therefore, is to interpose a divergent or double concave lens *F*, of sufficient power, between these rays and the observer's eye. The amount of concavity required in the lens will depend on the distance of the luminous object from the eye; if the focal distance of the lens is equal to *FB*, the rays will be rendered parallel; or divergent, if the focal distance is less than *FB*. The conditions are the same as in the Gallilean telescope or opera-glass, of which the convex media of the observed eye represent the object-glass, and the concave lens the ocular. For ordinary eyes, No. 10 of the common concave spectacle glasses is recommended; and Nos. 6 to 12 will supply the changes of lenses necessary as the luminous objects are at less or greater distance. Shortsighted eyes will require stronger lenses, or two lenses, one above another.

By means of the lens *F*, placed as close to the observed eye as the reflectors allow, the picture on the retina will be seen under the same angle; that is, of the same size as the image *B* appears to the eye *D*, or even a little larger; the parts of the retina will also be seen magnified in the same proportion. If the luminous object be distant from the eye eight inches, the magnifying power may be calculated at twenty-four times.

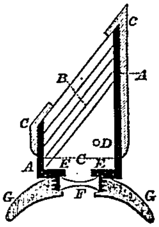
Instead of a concave lens, we might use two convex lenses, of which the first would form an inverted image, which would be magnified by the second. This would have the advantage, that, by regulating the distance between the two lenses, we might accommodate them to the eyé looking at near or distant objects, for which purpose we require to change the concave glass. But they are more difficult to manage; there is less light, or the image is less clear; and as the rays must pass through the axis of the lenses, the requisite steadiness of the observed eye and the instrument is very difficult to obtain. Hence, the concave lens is preferred in practice.

The Eye-Speculum[1] (Fig. 2) consists of a convenient apparatus holding together the reflectors at the requisite angle and the lens. This is easily done by a square tube, *AA*, as short as possible, with one end cut obliquely to form an angle of 56° with the base or other end, which is cut across at right angles to the tube. The exterior is bronzed or darkened; the interior lined with black velvet. The glass reflectors, *B*, which should be four parallel and well-polished slips of glass, are fitted on at the oblique end, and fixed close by an open

[1] Fig. 2 represents a view in section of the eye-speculum, as made by Mr. Bryson, optician, Edinburgh, simplified from the instrument described by Helmholtz.

frame, *C C*, which is fastened down to the sides of the tube by screws at *D*; a diaphragm, *E E*, and the concave lens, *F*, are placed at the base, and secured by a hollow eye-piece, *G*, which can be screwed off and on, so as to allow the lenses to be changed. Biconcave spectacle lenses, Nos. 6 to 12, are used; for ordinary use, No. 10 is convenient.

Fig. 2.



Method of using it.—In a dark room, with a flame at the side, and on a level with the eyes, which should be shaded by a screen *K* (Fig. 1), the reflectors are turned towards the observed eye, and adjusted, so as to throw the light on it in the direction of the axis of the instrument. By a little management, the observer will perceive the inverted image of the flame, and will select a suitable concave glass to see it distinctly. It facilitates much the observation to adapt our sight as if the image were a distant rather than a near object; and the observed eye should be directed towards a screen (*H*, Fig. 1), divided into squares, which are numbered so as to regulate the movements of the eye. The observation is also easier with large pupils; hence the importance of shading the eyes; and the use of belladonna might, in many cases, be of great assistance.

Appearance of the Retina, &c.—If, when the apparatus is adjusted, and the flame distinctly seen, the observed eye be turned a little inwards, bloodvessels come into view, passing as it were over the flame; and by tracing these from their branches to the main stems, we come upon the central artery of the retina and the optic nerve, at once recognized by its great brilliancy and whiteness; the whole optic nerve is lighted up at once, but no image of the flame is seen upon it. This spectacle of the red vessels on the transparent white ground is of surprising delicacy and beauty; and, when once seen, renders the observer immediately familiar with the objects to be examined, for the largest vessels and the brightest illumination exist here. The artery and vein are distinguished by the deeper colour of the latter, but no pulsation is visible. These vessels dividing pass near the inner side of the optic nerve upwards and downwards, then give off numerous branches on the surface of the retina. There is a semicircular shaded streak at the inner side of the optic nerve, apparently caused by a deficiency of the retina. The retina surrounding the white optic nerve is of a bright red colour, which becomes deeper towards the periphery, and is caused probably by the capillary bloodvessels, too small and too faintly illuminated to be distinguished from the gray substance of the retina. Large and small branching vessels pass on its surface, which everywhere shows a distinct image of the flame, brightest around the optic nerve, and fainter towards the periphery. The yellow spot of Sömmering, or spot of direct vision, is of a dimmer yellowish-gray colour, without trace of capillary vessels; its observation is rendered difficult by reflection from the cornea, and the luminous image is much less bright than on the adjoining parts of the retina.

Physiological Remarks.—We can ascertain directly that the eye alters its refracting powers to suit its focus to different distances. Thus the image of a flame and of the retina becomes indistinct when the observed eye looks at an object much more distant than the flame. Or if a thread be held horizontally before a flame, its image on the retina will be seen when near the flame, but become indistinct or disappear when the thread is moved from the flame towards the eye. It also appears that neither the optic nerve nor its fibrils in the retina are adapted for receiving impressions from light; otherwise, when part of the retina is illuminated, the corresponding portion of the periphery should perceive light; and when luminous rays fall on the optic nerve, the whole field of vision should be lighted up, as if the whole retina were acted on. But this is not the case; for even less light is perceived when rays fall on the optic nerve than on other parts of the retina. It is, therefore, the nerve-cells and corpuscles of the retina which perceive the luminous undulations, and localize them to the point on which they fall.

The Practical Applications of the eye-speculum may be expressed thus: It enables us to perceive alterations on the retina just as the unaided eye lets us see alterations of the cornea, iris, &c. Thus, congestion, varicose vessels, exudations on or in the retina, or between it and the choroid (the fibrin reflecting more powerfully, because less transparent than the retina, and obscuring the vessels). Shortsightedness may be directly detected by the curvature required for the concave lenses. The presence and degree of opacities of the crystalline will be more easily and certainly recognized. In short, nearly all that dissection has shown in the dead eye may, by this instrument, be recognized within the living one.

Dr. F. C. Donders, of Utrecht, states (*Nederlandsch Lancet* and *Monthly Journ. Med. Science*, April, 1853,) that Epkens, instrument-maker at Amsterdam, has made some useful improvements in Helmholtz's speculum.

Instead of the parallel glass-plates, inclined at the polarizing angle, Epkens employs as a reflector common mirror-glass, inclined at a somewhat variable angle, and from the central portion of which the metallic coating is removed, so that a clear circular space of three lines in diameter is left. By this means the reflection is made much more powerful; and as the eye under examination is close to the mirror, the rays are so cast back from the strongly glancing metallic surface of the glass that they are thrown upon the portion of the retina which we desire to inspect. For, indeed, although the less amount of reflection at the centre of the glass is, at some distance, distinctly appreciable, the eye under examination cannot perceive this at all, when it is situated at the proper distance from the speculum—a proof that the retina, even immediately behind the centre of the mirror, is illuminated in a sufficiently uniform manner by the diffuse-image of the reflected light.

A second alteration consists in combining with the speculum a cylindrical tube of 15 centimetres, = 6 English inches, long, by 3.5 centimetres, = 1·4 English inches, wide. To the outer end of this is fixed the lamp, whose rays are to reach the mirror through the tube; while a large thin black disk is attached to the body of the cylinder, screening the eye both of the observer and individual under examination from any direct rays from the source of light. In the tube a lens may also be placed to magnify the reflected image.

In the last speculum make by Rekos, there was a disk, having the form of a diaphragm with eccentric axis, carrying near its margin four common lenses of different powers, which, when the disk was turned, might be alternately adapted to the observer's eye. The lens best suited for distinct vision can be thus easily selected, while in operating with the original instrument it was necessary to fit one lens after another into the eye-piece, in order to make a choice. This improvement likewise has been adopted by Epkens.

Finally, and to this point we attach much importance, the whole apparatus is fixed to a stand, which can be screwed at the requisite height to a table.

We found, then, Epkens's speculum preferable, from its more strongly illuminating the retina; while, in order to conduct an observation, it was not necessary to exclude all daylight from the chamber, the reflected image on the cornea being hardly more an obstacle than when Helmholtz's speculum was used. But, above all, it appeared to us that the fixing of the whole apparatus, including the lamp, was a great improvement. For we found it excessively difficult to manage Helmholtz's speculum with the hand, and only now and then obtain with it a momentary view of the retina. We willingly attribute this to our own want of dexterity; and, indeed, we have the proof in what Helmholtz has seen, that the difficulties connected with the use of the instrument in its first form may, by repeated trials, be overcome. But an instrument is certainly preferable, which can be used by those who have less of practice and dexterity; and, in this point of view, Epkens's instrument assuredly excels. It is true that, with the fixed apparatus of Epkens, the movements of the eye necessary for the successive exploration of different parts of the retina cannot be followed; but there is no difficulty whatever, when from looking too much upwards, downwards, or sidewards, the pupil is not placed immediately behind the centre of the reflector, by gently moving the patient's head with the hand, in bringing it into the requisite position. The examination may be continued for the time that may be necessary, without any uneasiness for the eye of observer or patient, for Epkens has conveniently obviated the disagreeable propinquity of the faces (*bouche-à-bouche*) by the interposition of a velvet flap hanging from the cylinder.

We have already examined many eyes with this apparatus, and remarked that the brilliancy of the reflection in pupils of like width varies considerably in different individuals. It is not proposed to enter at present upon a description of all these physiological differences. We wish this communication to be regarded as a preliminary one, written solely with the view of showing that Helmholtz has not indulged too visionary a prospect as to the diagnostic value of his apparatus, and that he has conferred a real service no less upon ophthalmic surgery than upon physiology.

One of my first cases was a man of thirty-six years of age, who had, a short time before, arrived here from Surinam, and who, while there, had three years ago remarked, one morning, that straight objects appeared to his right eye crooked. Insensibility of about two-thirds of the outer and lower part of the retina had gradually followed, the central part corresponding to the axis of vision being included in the diseased condition. He could thus only somewhat indirectly distinguish objects placed below and to the outside of the eye, images from this quarter being of course projected upon the sound portion of the retina. As the direction of the axis of vision was somewhat disturbed, there was also this peculiarity in the case, that in the course of three years the patient had not learned to judge of distance quickly and correctly by means of the *left* eye, although it was neither long nor short sighted, and possessed considerable power of accommodation. If he wished to fill a wineglass, he commonly poured the liquid to its near or far side; and, when shooting, sometimes shouldered his gun at a passing insect, taking it for a bird.

After the application of belladonna, the ordinary mode of examination revealed nothing. I then, in company with my colleague, Van Goudoever, examined the eye with the speculum. We both perceived, with perfect distinctness, at the side of the bloodvessels, one or more dark, almost black blotches, which, from their somewhat red glance, appeared to be blood-coagula. Farther, over the whole diseased portion of retina, the reflection was exceedingly irregular—here, bright white; and there again so weak that little except the large bloodvessels could be distinguished; there were besides a number of rough parts, interspersed with unmistakably lighter and more shadowy points. This examination, accordingly, quite confirmed our suspicion that a limited effusion of blood between the choroid and retina, or in the latter membrane itself, had been the cause of the sudden distortion of objects (which must necessarily have been the consequence of displacement of the parts of the retina); and that a chronic inflammation had followed, and extended over two-thirds of the retina.

A second case was occasioned by a wound from a sharp-arrow, received many years before, on the inner side of the eyeball, and which had probably penetrated deep enough directly to implicate the retina. Blindness of this eye had, in the course of one or two years, followed; and there only remained some slight power of vision in a small portion of the retina. Here we first found a place where the black pigment was quite uncovered, and surrounded with a white, strongly reflecting margin; then, immediately outside the entrance of the optic nerve, we distinguished an almost black arch, shaped like a positive[1] meniscus, and which might have been regarded as a tear in the retina, had not two bloodvessels belonging to the membrane been distinctly seen stretched across the dark space. Helmholtz asserts that he usually distinguished a pale shadow, probably derived from the "plica semilunaris." We have likewise observed something of the sort in sound eyes, but nothing which, in point of darkness, could at all be compared with what was seen in this case. Besides, the arch was wanting in the same patient's sound eye. Farther, the bloodvessels seemed here and there to end as if cut short; and some of them were alternately wider and narrower, which we never have observed to be the case in sound eyes. Finally, the reflection from the tissue between the larger vessels was unequal, but not in a degree which could have authorized any conclusion from this circumstance alone, as to a morbid condition.

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[1] A meniscus, as distinguished from a concavo-convex lens. (Trans.)

43. *On Phosphene, or the Luminous Spectrum produced by Pressure on the Eyeball.*—Several articles have appeared in the French medical journals during the last two or three years, on the subject of phosphene,[1] and the *Gazette Médicale*, for January 15, contains a summary of some observations made by M. SERRE, of Alais, at a meeting of the Academy of Medicine.

Abrupt pressure on the eyeball, behind the line of juncture of the cornea and sclerotic, causes, at the *opposite point* in the interior of the organ, a sensation of a luminous ring. It varies in colour; it is generally whitish—sometimes bluish. The included space may be quite dark, or slightly clear; in the latter case, it contains a second ring, concentric with the first, and of a deep tint. This annular luminous appearance constitutes *phosphene.*

The ring is sometimes quite circular, sometimes elliptical, sometimes interrupted at one or more points. According to M. Serre, the ring is never entire; it always presents a lacuna, which is invariably directed backwards, and is less in the image on the temporal side than in others, especially in the supra-orbital image. This indentation has not been noticed by Müller or by Brewster, who have directed particular attention to phosphene. Dr. Dechambre, who writes the notice of M. Serre's communication in the *Gazette Médicale*, doubts whether the interruption is of so constant occurrence as is described by M. Serre. He has several times succeeded, by pressure on the inner side of the eye, in producing an unequal circle, broken at a number of points, but *without a lacuna.* A slight degree of pressure gave rise to the appearance of a segment of a ring; and, probably, the interruption in the circle would be due to insufficient pressure.

The phenomenon lasts only one or two seconds, if the pressure be rapidly made, so that the eye receives a sort of shock. If the pressure be continued, the image is gradually effaced, in a variable space of time. Its intensity is greatest when the eye is in the greatest amount of darkness. The experiment succeeds best just after transition from a very light to a dark medium.

At the same time with the image on the opposite side, there is often perceived, at the seat of the pressure, a second image like the first, but smaller and less luminous, and requiring great attention to perceive it. The indentation appears turned in the same direction as that of the other image. The double spectrum is produced whether the eyes be closed or open.

Several explanations of this phenomenon have been offered. Sir D. Brewster explains it by supposing that the retina undergoes pressure at two points—one at the part directly pressed on, and the other in an opposite direction. A ring of liquid is formed round each of these points. If pressure on the cornea does not produce phosphene, it is because it ends in the *punctum cœcum.* This explanation, which is accepted by M. Serre, is at present that which is most satisfactory.

M. Serre has endeavoured to apply this phenomenon to the physiology and pathology of vision. What is the meaning of the phenomenon? It means, first, that a mechanical impression on the retina gives rise to a sensation analogous to that produced by its proper stimulus, light; secondly, that the impression made is transmitted to the opposite point of the retina, in virtue of a physiological law, and without the intervention of known physical laws. M. Serre states that the crystalline lens is traversed at its centre, by the line passing from the point of contact to that where the object is perceived. If this be true also for images formed by the action of light, the inversion of the image produced by the crossing of the rays, becomes corrected without the intervention of any operation of the mind. This theory is, however, founded on uncertain data, and scarcely agrees with the explanation of phosphene given by Sir D. Brewster, and adopted by M. Serre.

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[1] From φῶς, light, and φαίνω, I cause to appear.

M. Serre has applied the phenomenon of phosphene to the diagnosis of some diseases of the eye, especially paralysis of the retina. The phenomenon is not always produced at will, nor at the first trial; but it is impossible to find it absent during several days, without concluding that the retina has lost its power.—*Association Medical Journal,* February 4, 1853.

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44. *Colour-Blindness.*—In the *Athenæum* for January 29, Mr. W. H. Tyndall pointed out the danger arising from the use of colour-signals on railways; where *red* signifies danger; *green,* caution; *white,* safety.

White light, it is well known, consists of three primary colours, red, blue, and yellow; any two of these producing the secondary colours: thus, red and blue give violet, the complementary colour of which is yellow; red and yellow give orange, to which blue is complementary; whilst blue and yellow give green, of which red is the complementary; hence it follows that when a secondary is mixed with its proper complementary colour, *white* light results. Now, with the colour-signals used on railways, it so happens, as will be evident from the foregoing, that if the *danger* and the *caution* colours, viz., red and green, are combined, the *safety* colour, or *white light,* is produced. On putting this to the test of experiment, Mr. Tyndall found that when a pointsman, stationed at one end of a tunnel some four hundred yards in length, was directed to report the signals made by a man placed at the other extremity of the tunnel, who was furnished with two lamps, a green and a red one, and directed to flash them together, the pointsman, a practised hand, declared that the light was *white,* indicating safety; nor could he be persuaded that the red and green lamps were used, in spite of subsequent explanation. Thus the very means now adopted for attaining safety, in practice involves the greatest risk; since the danger and caution colours, when seen together, or in rapid succession, at a distance, produce the impression on the retina of the safety-signal, and may, probably, already have actually been the cause of the most frightful accidents, when we remember the contradictory evidence given on inquests with respect to the colour of the signals.

Dr. George Wilson, of Edinburgh, author of *The Life of Cavendish,* in a letter to the same journal of the week before last, directs attention to an additional source of danger arising from this use of coloured signals on railways, owing to the frequency of Daltonism, *Chromatopseudopsis,* or colour-blindness, which, since the interest excited by Dalton's publication of a defect in his vision, which led him to confound scarlet with green, has been found to be far more prevalent than might be imagined, and thus increases the probability of danger arising from use of coloured signals. He first of all remarks that colour-blindness is a very common affection, Prévost declaring that it occurs in one male among twenty; whilst Seebeck found five cases among forty youths in Berlin. Dr. Wilson states that amongst his own pupils (in chemistry), this winter, he has detected two marked instances, and that five others have made themselves known to him; one of the two pupils having four relatives also subject to this affection. Professor A. Thomson, of Glasgow, made a similar investigation some years since, and arrived at the conclusion that, from the frequency of colour-blindness, the use of coloured signals on railways, or elsewhere, is fraught with peril to the public.

Farther investigation amongst the students at Edinburgh, shows that 1 in 37 or 38 are defective in the appreciation of colour, this defect appearing to be almost exclusively confined to males, amongst whom are to be found painters (artists), dyers, stationers, surgeons, a shawl-manufacturer, and an enamel-maker, employments we should have presumed to require the nicest appreciation of colour.

It also would seem that this defect is usually so great as to incapacitate those who are subject to it from distinguishing some colours, and especially *red* from *green,* and *green* from *red,* the railway signal colours; thus four of Dr. Wilson's own cases were unable to distingush these colours; three instances observed by Professor Kelland were similar to and as marked as Dalton's own case; one of the surgeons, above alluded to, betrayed his defect by his inability to distinguish the scarlet of the berries of the mountain-ash from the green of its leaves; another supplied himself in Paris with a *bonnet-rouge* in lieu of a green cap, as he intended; and still worse, brought home a flamingo-coloured dress to a lady who had requested him to procure her a green one. Others are unable to distinguish ripe from unripe strawberries but by the touch; one stationer offered blue sealingwax for red; others made continual blunders about the colours of the bindings of books, the colours of pink and green tinted paper, &c.; all of these proving the frequency of this inability among the community to distinguish between red and green colours.

Dr. Wilson also finds that in the cases he himself has observed, and also, he thinks, in those of Professor Kelland, there was not merely *chromatopseudopsis*, but actual colour-blindness; so that they did not merely confound green with red, but doubted about every colour; and, on different occasions, gave different names to the same colours; betraying an imperfect appreciation of all colours, confusing one with another. On these grounds, he recommends a speedy investigation of all the railway officials who are intrusted with or observe signals, in order to detect the cases of colour-blindness which probably occur amongst them, with a view to remove this cause of public peril, or, at any rate, an alteration of the signals employed, so as to avoid the danger thus incurred; concluding by requesting statistics on this subject from all who may feel interested in it, for which purpose we subjoin his address,[1] that such of our members who may be so disposed may communicate the results of inquiries in their own practice to a quarter where these results may be tabulated, and probably lead us to some interesting conclusions upon this singular optical affection. The comparative freedom of females from this affection is very remarkable; Dr. Wilson stating that only six female cases are as yet on record.—*Assoc. Med. Journ.* April 15, 1853.

45. *Strabismus.* By Professor SYME.—The bad effect of withdrawing a particular operation, or the treatment of a particular disease, from the general practice of surgery, is well illustrated by what has happened in regard to the cure of squinting by division of the muscles which cause this deformity. The public was greatly delighted with the prospect of obtaining relief from an unseemly and inconvenient condition, which had baffled all previous attempts to effect its remedy, and readily submitted their eyes to any who undertook the reparation of their obliquity on the new system. From the lowest level and thickest obscurity, through the united influence of impudence and credulity, a host of squint-cutters started into notice; and although they might never have had occasion before to use the knife or scissors on a living human body, freely practised on the patients who crowded round them. But the process required being a surgical operation of great nicety, and entirely useless unless perfectly complete, it is not surprising that in such hands failure was more frequent than success; and the former result, instead of being attributed to its true source, was accounted for by alleging that the relief was not always permanent, and that relapse could not be prevented. The operation, therefore, got a bad name; and although deserving the greatest confidence, is even now still labouring under the obloquy incurred by its self-constituted and unworthy professors.—*Monthly Journ. Med. Science,* April, 1853.

46. *Distichiasis.*—A late writer on opthalmic surgery (Mr. Walton) denies the existence of such an affection as distichiasis, or the supplemental development of hair on the inner margin of the lid; but maintains that all these cases are simply the result of a displacement of the original hair-bulbs (trichiasis).

Mr. Wilde, of Dublin, on the contrary, asserts (*Dublin Quarterly Journal*) that he has several preparations in his possession which show an undoubted additional growth of these hairs. In these cases, he states, he has not only examined the tarsal margins minutely after their removal, but counted the cilia, and they invariably amounted to more than what occurs in health.

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[1] Dr. G. Wilson, 24, Brown Square, Edinburgh,

Mr. White Cooper maintains the same view, in a late number of the *Association Medical Journal* (Feb. 18, 1853), and relates an interesting case upon which he has recently operated. A careful examination of the parts removed in this case confirmed, he says, the opinions formed by him from other cases, "that in true distichiasis the pseudo-cilia are not merely true cilia, the bulbs of which have been displaced by disease affecting the border of the eyelid, but that they are independent of them, issuing in regular order from the ocular margin, and being much finer than the true cilia. An essential distinction between distichiasis and trichiasis is, that in the former the growth and situation of the inverted hairs is independent of disease of the lid; while in the latter some morbid condition has almost certainly existed.

"The following is perhaps the commonest mode in which the eyelashes become displaced:—

"A yellow suppurating spot, involving two, three, or more lashes, will be seen at the margin of the eyelid. On lifting with a cataract-needle the little scab covering this, a drop of pus escapes, and an ulcer is laid bare, which has dissected round the cilia, often exposing the very bulbs; the cilia having thus lost their natural channels, easily acquire a false direction, which is confirmed by the contraction of the cicatrix after the healing of the ulcer; thus the hairs are drawn inwards against the eye."

The following are the steps of the operation for distichiasis, which, after considerable experience, Mr. Cooper has found the easiest and most complete:—

"With a fine camel-hair pencil and lampblack, the limits and line of an incision, which shall include all the pseudo-cilia, are to be marked on the skin about the eighth of an inch from the outer margin of the lid; this is desirable, as the free hemorrhage and loose texture of the parts renders it difficult to preserve an accurate direction during the dissection. Then, with a sharp pair of scissors, the edge of the lid, supported on an ivory spatula, is to be divided at the extremities of the proposed incision. The skin is thus set free; and by means of a sharp scalpel the skin, fibres of the orbicularis, and bulbs of the cilia may be dissected from the tarsal cartilage with facility. When this strip has been removed, it is proper to wait until the bleeding has ceased, when any stray black points (hair-bulbs) may be snipped out with curved iris scissors. The edges of the incision are to be carefully drawn together with sutures of fine Chinese twist, and cold-water dressings alone are required. At the expiration of about twenty-four hours, the sutures should be removed, or the lid will become puffy; their extraction requires a light hand, in order that the adhesions may not be disturbed.

"The removal of the edge of the lower lid is somewhat more difficult than that of the upper, for the spatula, which protects the eye, and is a firm point on which to cut, cannot be conveniently used; the lid must be drawn down to avoid the possibility of wounding the eye, and the traction on the integuments throws the tarsal cartilage back, so that it is rendered deeper than natural. Instead, therefore, of cutting down, I find it is best to thrust in the point of the knife at the limits of the intended incisions, and to cut towards the surface. The boundaries having been thus divided, the flap should be dissected off the cartilage, and, with a pair of scissors, snipped through close to the mucous membrane.

"The operation is painful; the hemorrhage always free; and it is best to have two assistants, one to hold the head of the patient firmly, the other to attend to the spatula and to sponge."

MIDWIFERY.

47. *Menstruation and Superfœtation.*—Dr. Mathews Duncan exhibited to the Edinburgh Physiological Society a dissection of a gravid uterus, at about the end of the second month of pregnancy. He specially pointed out the mucous structure of the decidua vera, and of the decidua reflexa, and the open state

of the Fallopian tubes and cervix uteri up till this period. The adherent plug of cervical mucus was also well seen.

The preparation illustrated the possibility of the menstrual discharge, which occasionally occurred in early pregnancy, being derived from its ordinary source, the lining membrane of the cavity of the uterus. This might be the source of the discharge till the cavity of the uterus was completely occluded by the contact and coalescence of the decidua vera and reflexa, which took place in the third month of pregnancy. The only obstacle to the issuing of the discharge from the uterus was the cervical mucus. But this was also present in the unimpregnated organ, and had to be displaced or opened up for each ordinary menstrual period.

On the same grounds, Dr. M. Duncan believed that superfœtation might take place up till some time in the third month of pregnancy. The communication between the vagina and the ovaries was quite free up till that time. By supposing the first child in a case of superfœtation, born at the end of the seventh month, and already viable, and the second to have been conceived in the end of the third month of the pregnancy of the former, an interval of five months is gained between the births of viable children, a space of time that will include and explain most authentic cases of this occurrence.

Dr. D. also made some remarks on the fanciful notions of authors as to the function of the decidua reflexa, in regulating the motions of the ovum on its entrance into the uterus, and showed that they were untenable.—*Monthly Journ. of Med. Science*, May, 1853.

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48. *Researches on the Pathology of Obstructions of the Veins, and the Nature and Proximate Cause of Phlegmasia Dolens.* By F. W. Mackenzie, M. D., London. (Proceedings of the Royal Medical and Chirurgical Society, March 8, 1853.)—The author observed that the facts brought forward by Dr. Davis (twelfth volume of the *Transactions*), with reference to the important relations subsisting between certain lesions of the crural veins and the general phenomena of phlegmasia dolens, had been generally recognized, and fully substantiated by the investigations of various pathologists; but that the conclusions drawn from them had not been accepted with the same unanimity, for whilst many concurred with Dr. Davis that the affection of the vein was the proximate cause of the disease, others believed it to be of secondary importance, and estimated it rather as an effect. It was the design of the present communication to inquire more particularly into the correctness of these respective opinions. After noticing the general characteristics of the disease, as defined by Callisen and Hall, he stated that the local manifestations were characterized by two principal conditions—first, by a persistent and peculiar swelling of the affected limb, with a degree of tension, heat, firmness, and elasticity not common to ordinary œdema; secondly, by an impairment of the nervous and muscular functions of the limb, indicated by pain, tenderness, and loss of motor power. The author then details a series of experiments to determine how far these conditions could be produced in parts where the veins had been artificially inflamed. The experiments consisted of three series: I. The application of ligatures to the iliac veins, followed by observation of the results at certain definite periods after the operation. II. Chemical and mechanical irritation of the lining membrane of the iliac veins. III. The effects of sustained compression of the femoral veins by metal plates. Then followed a full description of the experiments, which were made on dogs; and the state of the limb, the constitutional symptoms, and the dissection after the animal had been killed, were in each instance carefully recorded. The principal facts elicited by the first series of experiments—viz., ligature of the iliac veins, were, that the constitutional disturbance was very transient, and referable rather to the extensive wound necessary to expose the vein, than to the operation of the ligature. The morbid effects of the ligature were, slight thickening of the coats of the vein, and a loose, black, non-adherent coagulum at the immediate spot of the ligature. In forty-eight hours there was increased opacity, thickening and vascularity at the seat of ligature, and ulceration of the coats of the vein. In seventy-two hours the coats were nearly ulcerated through, and the vascularity and thickening, both above

and below the ligature, became greater. In ninety six hours the vein was completely divided by the ligature, and the parts above and below highly vascular, infiltrated, and swollen. A coagulum extended downwards, and was slightly adherent at the point of division. On removing the coagulum, a shreddy, patchy appearance was left, occasioned by its partial adhesion to the lining membrane. The author thought that these consequences of crural phlebitis, induced by ligature, differed very widely from those observed in phlegmasia dolens. The constitutional symptoms were more transient, and the local symptoms trifling as compared with this latter disease. But while the morbid effects of ligature of the vein did not altogether accord with the phenomena of phlegmasia dolens, they, on the other hand, were identical with such as have been observed from time immemorial in connection with wounds, injuries, and operations upon these vessels. The author next proceeded to detail the results of irritation of the iliac veins by chemical and mechanical agents. He employed strong solutions of nitrate of silver, and solid pieces of bougie fastened within the vein. Inflammation, localized to the seat of the experiment, was in each case produced; but in this series neither the local nor constitutional symptoms were those characteristic of phlegmasia dolens; and, if the foregoing experiments possess any value, they indicate that this disorder was not producible by inflammation or obstruction of veins, however rapidly induced. In all these experiments there was an absence of constitutional fever; the swelling of the limb was neither elastic nor abiding, but simply œdematous; and there was no impairment either of its sensory or motor functions. With such facts demonstrated, the author was of opinion that the affection of the veins was not the sole or even essential lesion, or the proximate cause of the complaint. The problem then to be solved was, what were the specific causes or conditions which can simultaneously affect the sensory, the motor, the secretory, and the vascular organs of the affected extremity, so as to give rise to the concurrent phenomena by which phlegmasia dolens is characterized. Were they local or constitutional? and in what did they respectively consist? The author then directed attention to the pathology of venous obstruction, and pointed out the contradictory opinions expressed in regard to it. He showed that phlebitis might exist in a variety of ways, and yet not induce phlegmasia dolens, although many writers had somewhat vaguely asserted the former to be a necessary precedent condition. In relation to this branch of the inquiry, the subject of irritation and injury of the external coat of veins, as connected with the causation of venous obstruction, next engaged attention. Experiments were detailed, in each of which the external coat was either mechanically injured, or irritated by the free application of some corrosive or chemical irritant. Others followed, in which the internal coat was similarly treated, to illustrate the causation of venous obstruction. In these last experiments, it was attempted to ascertain how far could be reconciled the conflicting opinions on the one hand, that phlebitis was primarily induced, and that effusion of lymph and coagulation of the contained blood, was the subsequent cause of obstruction; or, on the other, that the blood was first coagulated by the irritant, and that phlebitis and obstruction followed. In these experiments the vein was first emptied, and a space included between two ligatures. Chemical irritants were applied to the lining membrane, and the blood subsequently permitted to flow through. The agents employed were, solutions of the bichloride of mercury, sulphate of zinc, and nitrate of silver. Veins thus treated contained only some traces of fibrinous looking matter, having no analogy to coagulate lymph, and evidently deposited upon rather than exuded from the vein. The author thought that veins were not ordinarily obstructed by the effusion of such lymph, although it was not his intention to affirm that this never took place. He next offered some observations on the obstruction of veins from spontaneous coagulation of the blood consequent on extreme vital exhaustion, as well as upon its coagulation from the direct action of morbid secretions. Upon the latter branch of the subject, reference was made to the papers on the Pathology of Phlebitis, by Mr. Henry Lee, and to the opinion of that gentleman, that the admixture of pus and other morbid animal secretions with the blood caused coagulation whenever these fluids were received into the veins; and that from the coagulum so formed a pellicle was separated, which became vascular, and, finally, firmly united to the circumference of the containing vessel, so as to become inseparable from it, but upon reference to direct experiment the author was unable to verify these conclusions. The foregoing investigation led the author to the following deductions:—

1. That inflammation of neither the iliac nor femoral veins would account for or give rise to phlegmasia dolens.

2. That the extensive obstruction of the veins met with in this disease is not producible by merely local causes, such as injury or inflammation of these vessels.

3. That irritation of the lining membrane of veins, independently of such local injury or inflammation, will alone give rise to obstruction of these vessels, to an extent commensurate with that of the irritation which may have been excited within them.

4. That extensive irritation of the lining membrane of veins, giving rise to obstruction, and all the phenomena of phlebitis, may be excited by the presence of various unhealthy matters in the blood, circulating within this fluid, and determined upon particular portions of the venous system.

5. That the origin of the disease is, therefore, to be sought for rather in a vitiation of the circulating fluid than in any local injury, inflammation, or disease of the veins.

The author then referred to the causes capable of giving rise to an unhealthy condition of the blood; these were either local or constitutional; unhealthy secretions, suppuration and discharges belonged to those favourably circumstanced for reabsorption; and he proceeded to consider how far these deductions were supported by the clinical history of phlegmasia dolens. To determine this, he had carefully analyzed and arranged, in a tabular form, the principal facts of 100 cases, reported in special treatises, or in the periodical journals. These tables contained the particulars of sixty cases, which occurred in connection with childbearing, and of forty arising from other causes. The former class contained twenty deaths and twenty recoveries. The inference to be drawn from these cases was, that the disease was essentially a blood disease; that it had the same general laws, similar tendencies, and required the same principles of treatment as other blood diseases; and that the affection of the veins, like that of the nerves, the lymphatics, and the areolar tissue of the limb, was essentially secondary to, and dependent upon, an antecedent vitiation of the circulating fluid. The results of clinical experience thus harmonized with those of physiological research, and the author hoped that this investigation might not be altogether unimportant in its application to practice.

Mr. HENRY LEE remarked, that as the author had alluded to some experiments instituted by himself a few years ago, and had stated that the results of his own observations did not quite accord with those which he (Mr. Henry Lee) had put forward, he might perhaps be pardoned if he offered a few remarks relative to the subject thus brought forward. The author had stated that the pathological conditions observed in phlegmasia dolens, could not depend on the obstruction of a large vein by the presence of a coagulum, because no such conditions resulted if the vein was simply tied. But it appeared to him that the analogy between a tied vein and the obstruction met with in phlegmasia dolens did not hold good, for in phlegmasia dolens several venous trunks were choked by coagulum, whereas by the application of a ligature only one was obstructed. The author had declared that deligation of a vein was not capable of occasioning a rapid coagulation of the blood moving within it, and that he had observed, on several occasions after a vein had been tied, that the blood remained for some time fluid on each side of the ligature. This statement he (Dr. Henry Lee) could confirm; for in experimenting on asses, he had noticed that when the jugular vein had been plugged by a coagulum the tissues on that side of the neck fell into a state of general œdema, very similar to that observed in phlegmasia dolens. No such appearances, however, followed the application of a ligature to the jugular vein. Inflammation of veins indeed followed with great rapidity after stagnation, but was not so readily set up by deligation. With reference to the influence of pus when injected into the veins, the results of the author's extensive experiments did not differ so widely from those noted by himself as might at first sight be supposed. Since the performance of his first experiments he had instituted others to elucidate this point, and had found that the changes induced in the blood by the injection of pus into the veins varied according to the quality and source of that inflammatory product. Thus pus from an acute abscess would certainly produce immediate coagulation of the blood, but pus from a chronic abscess was not followed by the same effects, but only by a separation of the blood into its component parts—viz., liquor sanguinis and blood-corpuscles, while decomposing putrid pus set up neither of these changes, but merely converted the blood into a black, grumous, semifluid compound. It had been stated by the author that a simply irritated condition of the lining membrane of a vein, unaccompanied by any alteration of structure, such as abrasion or impairment of smoothness, was sufficient to establish coagulation of the blood flowing in its channel, and to account for many of the pathological conditions observed in phlegmasia dolens. But the experiments which he (Mr. Henry Lee) had performed, led him to believe that lymph was not effused from the lining membrane of a vein, unless that tunic had undergone some previous impairment, and he thought it quite as likely that the morbid material which ultimately coagulated the blood did so by first altering the structure of the lining membrane, and that this tunic reacted on the blood, as that the plugging resulted from an alteration in the quality of the blood, which irritated without impairing the internal tunic.

Mr. Arnott observed that the author was entitled to great praise, both for the laborious industry with which his paper had been worked up, and the patient analysis to which the materials composing it had been subjected. He rose with some hesitation to express the doubts he entertained respecting some of the author's conclusions—conclusions which, for the reasons he had mentioned, might not have been so clearly established as the author had wished. The experiments adduced were, in his opinion, insufficient to support the doctrines based upon them. Physical injuries of various kinds had been inflicted on the veins of the lower animals, and, because their results did not accord with the phenomena of phlegmasia dolens, the author considered the disease in question resulted from a morbid condition of the blood, which operated by irritating the lining membrane of the veins. Now he thought this conclusion not sufficiently established by the author's experiments. He should hesitate to admit that the veins were only liable to one species of inflammation because mechanical injuries inflicted on them, in the lower animals, had hitherto produced only one kind. We should not argue thus in other pathological questions. The skin was liable to various diseases and various inflammations; but because one was observed more frequently than the rest, we should not be justified in denying the possibility of the others. The various forms of counter-irritation, such as moxas, setons, blisters, &c., were undoubtedly generally followed by a purely local, circumscribed inflammation; but no one would, therefore, deny that a spreading inflammation could follow the employment of these agents. A large number of wounds might be inflicted, and all be healed, without the supervention of erysipelas; but the possibility of erysipelas, under circumstances of injury, would not on that account be questioned. In the same way, he conceived that though numerous injuries might be inflicted on veins, without setting up a spreading inflammation of their tunics, yet that such an inflammation might on certain occasions follow their application; and spreading inflammation of veins might, he thought, be induced by the application of chemical irritants to their tunics, although such a consequence did not generally ensue. The author had entered minutely into the question concerning the first morbid changes which terminated in phlegmasia dolens. Did these changes commence in the blood, or in the coats of the veins? The author referred them to the blood, and believed in the existence of a general contamination. He (Mr. Arnott) thought that the coats of the veins were most frequently the first to suffer, and he felt indisposed to admit the general contamination, for the absence of secondary deposits from the morbid anatomy of phlegmasia dolens furnished the strongest evidence for its being a purely local affection. The clots by which the veins plugged might be formed in consequence of inflammation of the venous tunics, or from contamination of the blood; either condition was, he thought, adequate for their production.

Mr. Hodgson did not consider phlegmasia dolens to be a "blood disease," according to the common acceptation in which that term is used. He considered it to be owing to an obstruction in the pelvic, iliac, and femoral veins, arising from the passage into those veins of putrid and irritating matters derived from the uterus after parturition. Other diseases were capable of producing the same condition; and he had seen it caused, as he believed, in a similar manner from the absorption of putrid matter from ovarian cysts after tapping, in cases of carcinoma of the uterus and rectum, extensive chronic abscesses about the hip and perineum and in the upper part of the thigh; and a similar condition from the like cause in various other parts of the body. The irritating matter, having entered the large veins, excites inflammation in them, and an effusion of plastic lymph upon their internal surface; to this the fibrin of the circulating blood becomes attached, and a plug is formed, which fills up the vessel. If the blood throughout the body were contaminated—if phlegmasia dolens, as it is called, were a blood disease, why were these particular veins the sole seat of the affection, as in almost all instances they were?—why did not the morbid condition of the blood affect other and more remote parts? Moreover, the symptoms which attended this condition were, except in extreme cases, those of a local, and not of a general or systemic affection. Phlegmasia dolens, in most instances, was not a disease dangerous to life, and patients generally recovered from it. For these reasons he was unable to admit that this disease depended upon a general disorder of the blood; he regarded it as a local affection arising from the reception of irritating matters into the veins, producing phlebitis and consequent obstruction of their cavities, with its usual consequences. That the coats of the veins were, in most instances, the seat of active inflammation, was, he thought, proved, not only by the effusion of plastic lymph intimately adherent to the lining membrane, but also by effusions of pus, which are frequently found intermixed with the plugs by which the veins are obstructed.

Dr. Copland had seen several cases of phlegmasia dolens, and thought the pathological phenomena presented by them bore no analogy to the results of the author's experiments. He did not indeed believe that phlegmasia dolens could be imitated by experiment on the lower animals. It was, as Mr. Hodgson remarked, a local affection, and depended on several causes. An assemblage of morbid conditions combined, in most instances, to constitute it, each of which might be singly produced in other affections; thus the white swelling or general œdema depended principally on obstruction to the lymphatics, and might follow after cancer of the groin or within the pelvis, and after the obstruction of these vessels the veins might become secondarily affected, so that a condition similar to phlegmasia dolens would then be set up. He had seen an instance in which the disease originated in inflammation of the nerves of the thigh; and although there was no doubt that the blood was contaminated locally, yet there were no sure grounds for believing that such contamination had pervaded the whole circulation.

Dr. Locock thought that the interval which elapsed between parturition and the commencement of phlegmasia dolens furnished an argument in favour of its being a local disease. There were very few cases in which it showed itself before a fortnight after parturition, and a week was the shortest interval with which he was acquainted. He was inclined to believe that there was an hereditary predisposition to phlegmasia dolens in certain families. The following instance seemed to prove it: A nobleman had four daughters; they all married young, and all had phlegmasia dolens after their first pregnancy, and the nobleman himself had suffered from the same complaint.

Dr. Mackenzie said: In proceeding to reply to some of the observations which have been made in the course of this discussion, he would wish to state at the outset, that it did not appear to him that any fact or circumstance had been mentioned which was not strictly reconcilable with the principles affirmed in his paper; and that, should such appear to be the case, it was due to the fact that a portion only of it had been heard, that the whole of the pathological part and it seemed altogether well formed. The left lung was situated anterior to the right, its large bronchia overlaying the right. It had the appearance of having been slightly dilated by air, while the other was not the least inflated. At its lower end, the heart, surrounded by the pericardium, was situated, the latter, to all appearance, bearing its ordinary relations to the former. The heart extended diagonally across the chest, its apex being upon the right side of the sternum opposite the sixth rib, its base directed toward the right shoulder. The left ventricle was upon its posterior superior aspect, the right below and before. This organ was distended with dark fluid blood. The aorta pursued a course toward the right scapula to near the first rib, where it suddenly curved across to the left side of the vertebral column, down which it continued its course. The stomach rested *upon* the diaphragm, in the right side of the thorax, its large extremity in contact with the middle of the right ribs, its smaller extending to the mediastinum behind the heart. At this point, the diaphragm was perforated by the duodenum, which passed behind the liver until it gained the inferior surface of this organ, whence it curved to the left and ascended into the costal cavity, on the left side (for it could not be called the thorax), to join the jejunum, which was about all contained above the place that ought to have been occupied by the left half of the diaphragm. From the jejunum, the illium passed downward, from left to right, to the illiac fossa to the commencement of the colon. This last organ on the left ascended to the clavicle. To the large extremity of the stomach was attached the spleen, which was remarkably thin and fragile, and deeply coloured with the dark purple hue which pervaded the surface. The liver was very large, its right lobe occupying its usual position in the right hypochondrium, while the left, long and large, formed an acute angle to it around the point of junction of the half diaphragm and mediastinum, and extended upward to the clavicle on the left side, in contact in front with the sternum and ribs posterior, and to the left of this were a part of the intestines.

Case of Pelvic Abscess, after Delivery. By HATTERSLY P. WORTHINGTON, Laurel Factory, Md.

Mrs. J——, attacked with labour-pains, with her fifth conception, attended with pretty free hemorrhage, on March 1, 1853, in the evening. The pains and hemorrhage, with some trifling intermission, continued until the evening of the 3d, when she was delivered of twins, which survived but a few hours. Had no medical attendant during her labour. On the morning of the 5th, she arose and attempted to dress herself, but was compelled to return to her bed; suffering severe pain in the left iliac region.

On the afternoon of the 6th, I was called to see her. Complained of severe pain in the left iliac region, with inability of motion in the corresponding leg; any motion of right leg, or of the lower part of the body, aggravating the pain. Considerable tympanitis, with tenderness upon pressure of the region indicated; lochia, slightly diminished in quantity; of healthy appearance; tongue furred, with trifling increase of redness of edges and tip; moderate thirst; bowels not evacuated since delivery; pulse 126, and small; restless and sleepless. Gave cathartic dose of calomel, with camphor, followed in six hours by castor-oil; calomel and camphor, each gr. ij every four hours. Rubbed the lower part of the abdomen with ol. terebinth., and applied emollient cataplasms.

7th, 10 A. M.—Easier; two rather copious stools during the night; tympanitis much diminished; thirst less urgent; pulse 110, and small. Continue the calomel and camphor every six hours, and the poultices and turpentine; Dover's powder, 10 grs. at night.

flammation, than upon any primary morbid condition of the blood. He suggested that notwithstanding that the ordinary causes of inflammation applied to a vein fail to excite more than trivial consequences, that he cannot doubt the occasional occurrence of some more specific form of inflammation from the operation of the same causes; and he observed that because wounds and other injuries of the skin may fail in fifty cases to excite more than healthy inflammation of that organ, that he will not be persuaded that they may not, in the fifty-first, excite an erysipelatous or some other unhealthy inflammation. Now, with reference to this observation, he (Mr. Mackenzie) would wish to inquire whether it does not, in reality, concede the whole question? for upon what can a specific inflammation depend but upon some specific or peculiar condition of the blood? Again, with regard to the veins, suppose that in a million cases the ordinary causes of inflammation applied to them failed to excite extensive obstruction of these vessels, whereas in the millionth and one such resulted, should we be justified in regarding the one case as a rule, and the million cases as the exception? Was it not rather probable that the peculiarity in the exceptional case was rather dependent upon some peculiar condition of the blood, than upon any disposition on the part of the vein to develop such specific inflammation, in the absence of such case? This view, he submitted, was at least rendered probable, when it was considered how latent and insidious are some of the causes which tend to impair the normal condition of the blood. With regard to the observations of Mr. Hodgson, it did not appear to him (Dr. Mackenzie) that the facts he had mentioned were at all at variance with the principles affirmed in the paper. The blood, he need scarcely observe, was liable to become diseased or contaminated in a variety of ways; and of the causes productive of such results, some are of a local and some of a general character. Now, the circumstances Mr. Hodgson had referred to—viz., cancerous diseases—constitute some of the more important local causes, for they tend sooner or later to give rise to suppurative or unhealthy discharges; and these, on being absorbed into the system, tend not only to vitiate the blood, but to produce irritation or inflammation of the vessels through which they are transmitted, whether these happen to be absorbents or veins. As to the particular veins which are liable to become inflamed from a general vitiation of the blood, he (Dr. Mackenzie) believed that in the majority of cases we may recognize the operation of certain determining causes. This question, moreover, he had fully considered in the pathological part of the inquiry, and he regretted that the time of the Society would not now enable him to enter upon it. The facts stated by Dr. Locock were not only of extreme interest in themselves, but highly important to the present inquiry; indeed, in the whole course of his (Dr. Mackenzie's) experience or reading, he had never met with such strong testimony to the correctness of the opinion that phlegmasia dolens was a constitutional disease; for hereditary diseases are, in the strictest sense of the word, blood diseases; and if, as stated by Dr. Locock, phlegmasia dolens did really occur as an hereditary affection, we may deduce a strong argument from the fact in favour of its being a blood disease. He (Dr. Mackenzie) did not know that any other points had been raised in this discussion which required to be noticed, and was unwilling to occupy the attention of the Society at greater length. He extremely regretted that the number of details which it was necessary to introduce into his paper, in order to substantiate the several propositions affirmed in it, were such as to have prevented its being brought fairly before the Society. When, however, hereafter it shall be published entire, and the facts and inferences contained in it fairly weighed and considered, he ventured to believe, with confidence, that the judgment of the profession would be given in favour of the principles he had affirmed, and the conclusions he had arrived at.—*Lancet*, March 19, 1853.

EPIDEMICS.

49. *Smallpox.*—The epidemic smallpox, which visited England in the early part of the year 1852, was at least as severe in its character, as malignant in its contagious tendency, and as fatal to its victims as any variolous epidemic with which this country has ever been visited. The visitation commenced in the last quarter of 1851, advanced rapidly until the termination of the year, and continued its fatal career till the end of July, 1852, when it began to decline, with steady rapidity, till December, during which month there were only 14 deaths; the monthly average during the last twelve years being 74. The following table is constructed from the weekly reports of the Registrar-General as regards the mortality from smallpox in the metropolitan districts:—

DEATHS FROM SMALLPOX.

From 1840 to 1851, the average deaths from smallpox were about	891	per annum.
In the last quarter of 1851, there were 339 deaths; rate	1356	"
In the first quarter of 1852, 389 deaths; rate . .	1556	"
In the second quarter of 1852, 472 deaths; rate .	1888	"
In the third quarter of 1852, 221 deaths; rate . .	884	"
In the fourth quarter of 1852, 74 deaths; rate . .	296	"

The present average is therefore four times less than the average of the preceding eleven years. The disease has, however, broken out with great severity in South Wales, where an epidemic of very fatal character has been raging, particularly in the iron districts, for the last three months. It has likewise been very fatal in the West of England, especially at Bristol, where it has assumed a peculiar and somewhat novel character; the type being malignant and confluent, and the pustules running into putrid masses with unwonted rapidity. Mr. Stansbury is of opinion that the disease is of Irish introduction, as the first case which came under his notice he could trace directly from Ireland.

Smallpox is essentially a pustular affection; and it is remarkable that it should have immediately succeeded the prevalence of the furunculoid epidemic. The deaths from carbuncle attained their greatest number in the *first* quarter of 1852, in which there were 16 deaths from that disease, or a rate of 64 per annum, the average being 4½; and the deaths from smallpox, in the *second* quarter of 1852, were 472, the rate being 1888 per annum; the average being about 792. It becomes a question of interest, therefore, whether a general tendency to pustular formations may not have had some common influence in producing both epidemics. During the year 1852, there were more cases admitted into the smallpox hospital than in any former period since its original establishment; and the fatality has been equally extraordinary. The corymbose and hemorrhagic forms of the disease, both of them at all times almost uniformly fatal, have prominently marked its course. It is also worthy of remark that, almost immediately preceding its outbreak in Europe, the Indian Presidency of Bengal was visited with one of those awful variolous epidemics which have devastated that "city of palaces" on several occasions during the last half century. The visitation of 1849–50 was so fatal in Calcutta, that, notwithstanding the proverbial apathy of the inhabitants (who have, as a body, rejected the protection of vaccination), yet on this occasion a general panic of so unusual an order seized on the inhabitants, that government appointed a special commission to inquire into the nature of the epidemic. The report of these commissioners has been transmitted to the Epidemiological Society; and it appears that during the years 1849–50, among the native inhabitants, the deaths from smallpox actually amounted to 4,467, the total deaths from all diseases being 9,530; in other words, the deaths from smallpox alone were 46.86 in 100 deaths. In the following year, the disease visited Europe; thus travelling, like the cholera, from east to west.—*Assoc. Med. Journ.* Feb. 18, 1853.

50. *Scarlatina.*—The more common epidemics have been observed, from time immemorial, to follow hard upon each other's footsteps. It has been shown that the late variolous epidemic attained its height in the metropolitan districts in the second quarter of 1852; that it declined in the third quarter of that year; and in the fourth quarter diminished to an amount far below its average. Now, by comparing the following tables, it will be seen that no sooner had smallpox begun to decline, than another epidemic, scarlatina, began to manifest itself, and observed a rapidity in its *advance* remarkably proportioned to the rapidity of the *decline* of smallpox.

SMALLPOX. Annual average, 840. 1852.		SCARLATINA. Annual average, 1794. 1852.	
1st quarter, deaths . .	389	1st quarter, deaths . .	366
2d quarter, " . .	472	2d quarter, " . .	563
3d quarter, " . .	221	3d quarter, " . .	668
4th quarter, " . .	74	4th quarter, " . .	952
1st six months . . .	861	1st six months . . .	929
2d six months . . .	295	2d six months . . .	1,620
Total deaths in 1852 . .	1,156	Total deaths in 1852 . .	2,549

Thus it appears that while both of these epidemics exceeded their usual average in the year 1852, by about one-third, the actual excess in smallpox was observable in the first six months only; while the excess in scarlatina occurred in the second six months only; and that the excess of each, in its own epidemic half of the year, was about double the average half-yearly number; the smallpox cases being rather *more* than double, the scarlatina cases rather *less* than double the average of six months.

It can scarcely be doubted that amidst the general darkness and mystery in which the causes of epidemics are involved, a ray of light might be struck out, if, with the aid of general registration, the future history of different epidemics, especially with regard to their *relative* rise, progress, and decline could thus be accurately traced and systematically recorded. We doubt not that the zealous members of the Epidemiological Society will ultimately have their attention drawn to these interesting points. Meanwhile, we earnestly call upon the members of our Association to avail themselves of their local opportunities, each in his own sphere, of noting, recording, and tabulating corresponding facts.

In the preceding sketch of the epidemics of 1852, as regards the metropolitan districts, we have purposely abstained from all reference to the influence of vaccination in protecting the population against smallpox, because we are looking with eager expectation to the forthcoming report of the Smallpox and Vaccination Committee of the Epidemiological Society, which, we trust, will set most of the vexed questions connected with vaccination at rest. But, lest the late variolous visitation should lead any of our readers to erroneous conclusions as to the general failure of Jenner's discovery, in its protective power over the population at large, we can only entreat them to wait until the whole subject has been brought before them in all its details, and in its momentous bearings upon the prospects of this country and the world at large, in regard to the possibility of being better prepared to meet any future outbreak of this terrible disease.

There is one interesting fact disclosed in the quarterly return just published by the Registrar-General, viz., that while the metropolitan mortality has been considerably below the average, as likewise the mortality in the provincial *towns*, the mortality of the provinces *generally* was above the average. This may be accounted for, if we recollect that a very rainy season, while it will augment the general tendency to disease, will also, by washing out the drains of large cities, tend to diminish the rate of mortality arising at all seasons from this very fruitful source of disease and death. It is also reasonable to attribute the superior salubrity of the town districts to the energy with which, in some localities, the new Sanitary Act has been enforced under the direction of the Board of Health.—*Ass. Med. Journ.* Feb. 18, 1853.

51. *Measles.*—This disease is at present very prevalent in London and some of the suburbs. The epidemic is of a mild character; but, from the severity of the season, the children of the poor frequently have a tedious and imperfect convalescence. The eruption is in general very profuse, and the fever slight.—*Ass. Med. Journ.* Feb. 18, 1853.

52. *Furunculoid Epidemic; Appearance of Acute Pemphigus.*—The epidemic of carbuncles is still raging in London, and has been more fatal during the last month than at any previous period, except in the month of September last year, in which were registered 10 deaths. In January, 1853, 9 deaths were registered, three of which occurred in the last week of the month. In one of these, the patient, a lady of 39, survived with a succession of carbuncles for five months, during the last five weeks of which they became complicated with whitlows and abscesses, under which she sank. In several instances, the disease has of late commenced with vesications; and it is also remarkable that two or more deaths have recently occurred from *pemphigus*, which, in its acute form, is extremely rare in this country. In its malignant form, it is a horrible disease, more dangerous than smallpox, and quite as repulsive and distressing. The type is low, and the serum in the vesicles speedily assumes a putrid condition, and exhibits a dark colour. The pulse is frequent and feeble, and the mucous membranes often participate in the disease, and discharge an offensive muco-purulent fluid.—*Ibid.*

MEDICAL JURISPRUDENCE AND TOXICOLOGY.

53. *Drowning. Is there a fixed Period at which a drowned Body will float? If not, what are the Circumstances that chiefly control its early or prolonged rising to the Surface?*—I am indebted for the following case to the kindness of the Hon. William B. Wright, one of the judges of the Supreme Court of this State, who tried it at the circuit held in this city last winter. It contains what may be called the *medico-legal testimony* only, and I submit it in the hope that the main inquiry may receive some attention from medical gentlemen residing in cities and towns where drowning frequently occurs, as to its statistics:—

Voltan and Adams vs. *The National Loan Fund Life Assurance Company.*

The action was brought by the plaintiffs, as assignees of this policy, to recover, on a policy of insurance, issued by the defendants upon the life of one Conrad Shoemaker. The insurance was for $10,000, and the policy was issued on the 15th of May, 1850. The premium on the policy was payable quarterly in advance.

On the 23d of August, 1850, Shoemaker paid the premium for the quarter ending on the 15th of November, 1850. On the 4th of September, 1850, the plaintiffs alleged that Shoemaker was drowned, while on a fishing excursion, with one Ottman, a German, in the waters of the bay of New York, about opposite to Hoboken, and nearest to the New Jersey shore. The theory of the defence substantially was, that Voltan, Martin, and Shoemaker (Germans) had entered into a conspiracy to defraud the insurance company, by causing an insurance to be effected for a large amount on the life of Shoemaker, and subsequently secreting and disposing of him.

To obtain a recovery, of course, it was necessary that the plaintiffs should satisfy the jury of the death of Shoemaker. This they attempted to do; 1st., by the testimony of Ottman, who swore to the circumstances of his drowning, and of the time and place, which was on the 4th of September, 1850, about dusk, in the Hudson River, opposite Hoboken, and near midway of the river. 2d. By showing that a body *found floating* on the *river* near Jersey City, on the 7th of September, 1850, was the body of Shoemaker.

This body was examined by the coroner of Jersey City, soon after being discovered. The skin was somewhat bleached, and the face disfigured; a part of the lips being eaten off by crabs, lobsters, or fish of some kind. After examination, it was interred by direction of the coroner.

It was not attempted to identify this as the body of Shoemaker, except from some of the clothes found on it, and particularly the handkerchief on the neck. The handkerchief on the body was the half of a black silk one, with stripes, and cut from its mate diagonally. It was shown by a witness that Voltan, a short period before the alleged drowning, had purchased a handkerchief for his son, and at the suggestion of Voltan's daughter, it was cut in two, and half of it given to Shoemaker, after being hemmed by her; the other half to the son. The part retained by the son, and the part found on the neck of the body were exhibited in court and found to match in colour and stripes, and when laid together, formed a square, and although cut across the stripes, matched in the run and character of the stripes. The pantaloons were also shown to be of the same general character worn by Shoemaker, about the time of his alleged death.

To rebut the presumption that this was the body of Shoemaker, a number of witnesses were sworn on the part of the defence, with the view of showing that, as a general rule, bodies will not rise and float, even when the water is of the temperature that it is in the month of September, under from six to ten days. As Shoemaker was alleged to have been drowned on the 4th of September, the body was found floating on the 7th of September, three days afterwards; if it were universally true that bodies do not float until decomposition takes place, in the waters of the Hudson, under from six to ten days, then this could not be the body of Shoemaker.

The first witness sworn on the subject was *Dr. Barent P. Staats*. He testified that he had had occasion, in the course of his professional reading, to examine the subject as to how long a body will remain in the water before rising and floating. That it depends on the time of year, and the temperature of the water, and the size and make of the man. When the temperature is 65°, he did not think any body would rise in from less than seven to ten days. On his cross-examination, he said he did not know that he could point out any book that he had consulted.

Dr. Benj. Budd was the next witness called. He testified that he was assistant coroner in New York—has had occasion to see many drowned bodies—some one hundred and fifty. Never knew a body to rise in less than six days, unless some mechanical means were used to raise it. Should judge the body found at Jersey City to have been in the water from ten to twenty days. Has never known a body to be in the water less than seven days that was mutilated by fishes. Bodies that have been hooked up in three, four or five days, have not that peculiar bleached appearance as those present that come up from seven to ten days. The body will not rise until decomposition has commenced. He is twenty-five years of age, and has only studied the book of experience.

Dr. Seth Geer was then called. He testified that he was coroner in New York for eighteen months, during which time he had examined between three and four hundred drowned bodies. The general rule as to the rising of drowned bodies in the harbour of New York, is from eight to ten days. In his judgment, from the description given, the body found at Jersey City, had been in the water two or three weeks. Never knew a body that had been in the water but three days, mutilated by fishes. The hotter the water, the sooner the body would bleach.

Andrew Blakeley was then called. He testified that he was deputy coroner in New York a little over two years, during which time he examined rising two hundred and fifty drowned bodies. Drowned bodies would rise in the summer months on an average of from six to ten days, as he found out by experience. He did not remember any case of rising when the body had been in the water but three days. He never saw a drowned body that had laid in the water but three days eaten by fishes. On his cross-examination, he stated that he had never read any medical book on the subject, nor did he know, except from testimony taken as coroner, of a body lying under water seven days. It takes a body from six to eight or ten days to get bleached. He means by bleaching, a soaking of the body—a general softening and whitening of the body.

Henry C. Van Wie was called on the part of the plaintiffs. He testified that he was coroner of the County of Albany for four years. Has held a good many inquests on drowned bodies. Has known two or three instances where the bodies have risen in three or four days. In warm or sultry weather, they will rise in from three to four days. They will bleach out directly in warm weather. They will be mutilated by fishes directly after decomposition takes place. Remembers an instance of holding an inquest on a body that drifted ashore and had been drowned four, five, or six days. (This witness related the startling fact of holding, in one season, inquests on fifteen infants under three months' old, found floating in cigar-boxes near the city of Albany—cases doubtless of infanticide.)

Henry C. Allen, called for the plaintiffs. He testified that he had been coroner of Albany County for twelve or fourteen years. He never could make up his mind as to any definite time that a body would remain under water. He knew an instance of a girl of fourteen years of age, who was drowned on Friday at 12 o'clock, and floated on Sunday at 12 o'clock. She was drowned at Greenbush Ferry. Has known instances of bodies rising in five or six days. Sometimes sooner. Knew of one man by the name of Moreton, who floated on the fourth or fifth day. The girl spoken off had turned a dark livid colour. Females float sooner than males.

George E. Cutler called by plaintiffs. He testified that he was coroner of Jersey City. He knew of the case of a young man who was drowned on Sunday, about 7 or 8 o'clock in the morning, and on Tuesday or Wednesday succeeding, about 11 o'clock, he was found floating about two miles from the place where he was drowned. He knew of a female by the name of Smith, who was seen alive on Wednesday evening, about 7 o'clock; on Wednesday, about 4 o'clock P. M., he was called to view the body floating. A person of temperate habits will bleach very quick; those who have been inveterate drinkers never will bleach.

John Osborn called by plaintiffs. He testified that he was coroner of Albany County three years. Had occasion frequently to reclaim drowned bodies. Had known bodies to come up in two days, others not in several months. Had a case of an Irish girl. She had been drowned some two or three days; it might have been four. Had another case of a man, McCarregan, an Irish auctioneer, who rose in four or five days.

Silas M. Benton, called for plaintiffs. He testified that he was acting coroner in 1847, 1848, and 1849, in New Haven County (Conn.). He knew a case of a person, whom he saw on Friday, was missed on Saturday, and found floating in the water on Sunday. The man was a German, and a baker by trade.

The verdict of the jury was in favour of the plaintiffs. T. R. B.

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54. *Permanency of Tattooing. Can Tattooing Marks be effaced during Life?* —The following case has excited great attention in Berlin; it is related by Dr. Casper:—

September 10, 1849.—Some peasants found, on the bank of a rivulet which flowed into the Spree, the body of a man whose head had been detached by an incision carried between the first and second dorsal vertebræ. It had been so much disfigured by the assassins that recognition was impossible. Near the body was a small cane, a hat, and a box of allametes; some of the clothes were remaining on the trunk.

The day following, two physicians drew up an unsatisfactory and imperfect report. They found the signs of incipient putrefaction, *but post-mortem stains* nowhere existed. Both of these witnesses declared at the final hearing of the case, in answer to repeated questioning, that *cupping marks*, had such existed, might have possibly escaped their attention, but certainly not *tattooed marks*, which must have attracted notice in the course of their protracted and careful examination.

A girl came forward and stated that, from the accounts stated in the Berlin newspapers, she felt sure that the deceased was her husband. The clothing was recognized by her. Finally, the body was disinterred, and the woman recognized it positively (by the external organs of generation, among other marks), as the body of her husband. The result of inquiries, which were immediately and most carefully made, proved that she was a prostitute, and had never been married in her life. It was not made perfectly clear whether this woman was of weak intellect or a cunning deceiver, perhaps interested in the profits of the robbery and murder. This incident was and remains an episode in the fearful drama.

Other researches led to the supposition that the assassin was an unknown individual, but of desperate character, and who was a cattle-dealer named Gottleib Ebermann. This suspicion did not gain force. On the contrary, the accumulation of additional evidence substituted for it the exceeding probability that Ebermann was himself the murdered man. It was said of him that he might be recognized by traces of the cupping scarification on the wrists, and tattoo marks of a heart, and of the initials "G. E." on the left arm, both of which points of identification were asserted by the very surgeons who had bled him. But Ebermann's sisters and wife stated that they knew nothing of such marks; consequently, there was a second exhumation, five months after death, but no traces were found on the body. The wife's testimony was not considered important, as she had been only recently married and much separated from her husband. Still, she asserted that very lately she must have observed any such marks, for that her husband was both a poacher and a highwayman; that she helped him to clean his arms, and used to turn back and bind up his shirt sleeves preparatory to this occupation. The medical report bore, that "decomposition was already too far advanced to permit cupping or tattooing marks to be made out on the body, and that none such were visible."

Meanwhile, a report spread that Ebermann was still alive. A witness came forward and told, with much simplicity, how he had gone to see Ebermann, had spoken to him, but without obtaining any answer. But it soon turned out that this was a monomaniac, a *ghost-seer*, who also deposed to having seen and conversed with another person, at whose funeral he had actually assisted. This (it is remarked) was a new episode.

Lastly, a mistress of Ebermann's was summoned as a witness, and she stated, positively, that a little cane found near the body belonged to a man of small stature, once a postilion, now a brigand, named Schall, and that the long stick found with other property of Ebermann, in Schall's house, was the stick of her deceased paramour. She had farther recognized all the articles of clothing found on the body as Ebermann's; and, in the prosecution of the inquiry, added that his teeth were so unusually broad and long that she could recognize them if placed before her. This led to a third exhumation, and this female now recognized, in the most positive manner, the teeth in the lower jaw, which were perfectly entire, as also what remained of the reddish beard which was attached to the denuded jaw bone, as belonging to her paramour. The wife also recognized, with distinctness, the different pieces of clothing, and also the wedding-ring, which had initials marked on it.

The trial, which seems to have been adjourned from time to time, was now proceeding, and, in particular, for the purpose of obtaining the opinion of Dr. Casper, whether *tattoo marks, seen upon Ebermann's body by competent witnesses, could by possibility become effaced by time.*

The process of tattooing, he observed, is usually accomplished by means of three or four sewing-needles stuck into a cork or piece of wood and turned up at the point, which are deeply bored into the skin on which the intended pattern has been traced. When the bleeding from the small punctured wounds has subsided, some coloured stuff is rubbed into the recent wounds, consisting usually of cinnabar or gunpowder, or generally of both; rarely of China ink.

The common opinion is, that these cannot be effaced during life. Dr. Casper instituted an inquiry at the Invalid Establishment, of Berlin, among the old tattooed soldiers, and with the following results: Out of thirty-six examples, the marks had become faint with time in three; the marks were partially effaced in two, and they were completely obliterated in four. He, therefore, came to the conclusion that the *marks of tattooing can disappear;* and, hence, that the important doubt as to the identity of the body of the murdered man was removed.

It is not necessary to state the remaining facts considered on the trial, except that Schall was found guilty and executed.

The *Medical Times and Gazette* (December 11, 1852), after stating the facts of the case, adds the following:—

"In *L'Union Medicale*, November 16, 1852, Dr. Chereau justly observes, respecting Casper's report, that it is not one which should influence a judicial decision; for it is not stated at what age, with what substance, and in what manner, the marks were produced in the four instances where there was complete obliteration. Are the men to be trusted? How many years elapsed before the marks became effaced? This question cannot be considered as in any way satisfactorily settled as it now stands; indeed, Casper's assertions tend to raise doubts which heretofore did not exist upon a point which might be most important in a prisoner's favour, viz., the persistence of these stains. There is evidence that the absorbent glands in the neighbourhood of a tattoo mark become filled with pigment. At the time of writing this, there is in the dissecting-rooms, attached to St. Bartholomew's Hospital, the body of a native of one of the Islands of the Eastern Archipelago, whose skin has been ornamented to an extent but rarely seen. The whole back, from the sacrum to the shoulder, is covered with circles, radiating stars, and feathers; the arms and the thighs are both marked, but the front of the body is comparatively clear. The absorbent glands in the groin and about the axilla were of deep black hue; those in the neck of the ordinary white colour. Mr. Coote, the demonstrator of anatomy, succeeded in dissecting out some absorbent vessels leading to the glands in the thigh, filled with black pigment in long streaks. These indications of the action of the absorbents were, however, few, and the tattoo marks existed everywhere with as much clearness, apparently, as at the time when they were first made."

"A similar remark may be offered respecting the possibility of the disappearance of cicatrices. If there have been a complete loss or division of integument in its whole thickness, the mark remains obvious till decomposition after death destroys the lesions. If the skin be only partially destroyed, there exists a cicatrix of a different kind; one much more resembling the natural structure of the skin, unattended with contractions, and capable of becoming very faint and liable to be overlooked, except upon close examination. We have no hesitation in expressing our opinion, that Casper's report does not tend in any way to invalidate the statement which has hitherto been received in courts of law: namely, that tattoo marks and cicatrices are indelible.—*Monthly Journal of Medicine*, September, 1852, *Medical Times and Gazette*, December, 1852.

T. R. B.

55. *On the Errors that may result in Forensic Chemistry from the Discoloration of Liquids containing Poisonous Substances by Charcoal.*—M. BONNEMAINS gives the following as the result of his experiments and observations on this subject:—

1. Charcoal removes from their solutions a large number of metallic salts; and hence, if we are searching for these in the liquid, it should not be employed.

2. But, if used, we must not look for the poisonous substance in the liquid, but in the charcoal, or in the ashes obtained by burning the charcoal. When volatile metals are sought for, the charcoal only should be examined. The burning of it may dissipate the metal.

3. The omission to notice this is too common, in modern works, and may often mislead the inexperienced experimenter.—*Comptes Rendus*, January 17, 1853.

In a subsequent communication, Gaultiez De Claubry, while recognizing the truth of the fact, denies the originality of it with M. Bonnemains. In his work entitled *Elementary Treatise on Forensic Chemistry*, published several years since, he especially pointed out this source of error; and, again, in the last edition, particularly under the head of "*Animal Black.*"—*Ibid.* January 31, 1853.

T. R. B.

56. M. Orfila.—The most important event occurring at the meeting of the Academy of Medicine, has been a communication made by M. Orfila, on the subject of a prize which he desires to found for the best essay on the subject of Legal Medicine. It was in the following words:—

"I have received from the Academy many marks of its esteem and sympathy, and which I shall always gratefully remember. I desire this day to give a proof of my gratitude in founding a prize of 2000 francs, to be adjudged every two years, and for the first time in 1855; and for this purpose I place at the disposition of the Academy certain stocks which yield annually 1000 francs.

"The prizes to be awarded in 1855 and 1857, are to be for essays on certain designated subjects in toxicology, and that for 1859, on some subject taken from the other branches of legal medicine. In 1861 and 1863, a subject on toxicology is again to be selected, and, in 1865, one from the other branches of legal medicine. This order is to be steadily pursued. During a period of six years the subject of the prize is to be taken from toxicology twice, whilst the remaining one may be on some other subject of legal medicine, anatomical, physiological, medical, surgical, or obstetrical. This order may, however, be departed from under circumstances which I shall presently indicate.

"If, after 1901, the Academy shall be of opinion that subjects, to be hereafter indicated in the second category, may, with advantage, be substituted for those taken from the remaining branches of legal medicine, it shall be at liberty to do so.

"The prize of 2000 francs shall never be divided. If it be not awarded, the same question shall be again proposed, and the prize then shall be 4000 francs; if not then awarded, the question shall be proposed a third time, and the prize be 6000 francs. And if, in spite of these adjournments, the prize still be not awarded, the total 6000 francs shall be transferred to the Treasury of the Association of Physicians of the Department of the Seine, which I founded in 1833.

"This renewal of the same question must necessarily produce a modification of the order in which they are to be offered. Thus the continuance of the toxicological subject, for six years, will cause the omission of the medico-legal one for one period only, whilst the continuance of the medico-legal one for four years will cause the omission of the others for one term also.

"The commission to adjudge the prize in toxicology shall consist of five members, of whom two shall be taken from the section of chemistry, one from that of pharmacy, one from that of external pathology, and one from that of legal medicine. When the prize, on subjects taken from the remaining branches of legal medicine, is to be awarded, the commission shall consist of two members taken from the section of legal medicine, two from the sections of surgery, and one from that of anatomy. But, if the subject be an obstetrical one, two members from that section shall be substituted for those from the surgical sections. For all other subjects, except those of toxicology and legal medicine, the Academy shall select a commission of five members from its own body.

"Permit me now to indicate a certain number of questions on toxicology, which I desire shall be proposed very much in the order in which they are put down. They consist of two categories:—

"*First Category.*—Researches on chloroform, mushrooms, cantharidine, and cantharides; codeine, hyosciamine, and henbane; aconitine, and aconite; veratrine, sabadilline, black hellebore, and white hellebore; on atropine and atropa belladonna; on daturine and datura stramonium; on digitaline and digitalis; on Nerium Oleander; on strychnia, bucine, and nux vomica; on piccotoxine and cocculus indicus, and on the venom of the viper.

"Each of the questions should be examined in its relations to physiology, pathology, pathological anatomy, therapeutics, and legal medicine. For example, what becomes of these poisons after they have been absorbed? in what organs do they sojourn? at what time are they eliminated, and through what outlets? what disorders do they produce in the functions? what are the symptoms and organic lesions that they cause? what is their action on the fluids of the animal economy, and, in particular, on the blood? what mode of treatment is preferable to combat their effects? finally, and this is the most important, what course are we to pursue to detect the presence of these poisons *before death*, whether in the matters vomited or those passed by stool, or in the urine, and, indeed, in any excreted liquids as well as the blood. *After death*, the medico-legal examination for these poisons should extend to the digestive canal, the various organs, the urine, and the blood. The period after interment, beyond which it is not possible to detect these poisons, should also be ascertained.

"New experiments should be instituted as to the antidotes of mineral and vegetable poisons. For example, is it possible to follow these poisons into the blood and into the organs where they have been carried by absorption, by making use of a chemical agent which shall render them inert or much less active? If this be so, as I think, science will behold its domain usefully extended, since it is now restricted to encountering these poisons in the digestive canal, and obtains but trifling success only in those rare cases in which the antidote has been administered a *little time* after taking the poison.

"*Second Category.*—There are still a series of questions which, in my view, are closely connected with toxicology, and which I should rejoice to have time allowed to elucidate. They are of a high order, extremely difficult to resolve, and should not be presented as subjects for prize essays until after most, at least, of these in the first category have been successfully studied, and experimenters have surmounted the obstacles that they will have to encounter in detecting organic, vegetable, and animal principles.

"My ideas, Mr. President, on this point, are the following: I have taught for thirty years, in my course of lectures, that intermittent and typhoid fevers, contagious eruptive phlegmasia, dysentery, puerperal peritonitis, cholera, diphtheritis, &c., are specific diseases, occasioned by a poison which is developed in the animal economy, or which is introduced from without through the respiratory passages to be ultimately mixed with the blood. I am so well satisfied of the truth of this assertion, that I do not hesitate to ask of the Academy to propose several questions on the subject for prize essays.

"Of course, researches on the problems of this category should include everything I have already noticed, as absorption, the symptoms, injuries of tissues, elimination, treatment, &c.

"If the candidates for the prize find it impossible to resolve these questions, still, their labours will be productive of real progress in knowledge. So much do I desire to encourage such investigations, that I make an exception to the general order in authorizing the Academy to bestow, on the most successful persons in this inquiry, the sum of 1000 francs, or a gold medal of the same value. In such an event the prize, which otherwise would be 4000 or 6000 francs, shall not be more than 3000, 4000, or 5000 francs; depending, of course, on the number to whom the previous prize is awarded.

"If, after having proposed three or four questions under this category, the Academy shall be of opinion that the results do not reach my views, it shall be at liberty to propose other questions of a similar character, or to select them from the subject of *public hygiene.*

"Finally, when the questions now indicated have, in the opinion of the Academy, been exhausted, it shall designate such others as may seem proper."

This communication was received with applause, and the President, Berard, made a brief reply expressive of the gratitude and thanks of the Academy. A large number of members waited on M. Orfila after the meeting, to renew these, and a subscription was opened to procure a gold medal, to be presented to the *Anciën Deyen de la Faculté de Medecine*, as an enduring memorial of his great liberality.—*Journal de Medecine et Chirurgie*, February, 1853.

[*What a magnificent will and testament for the benefit of the human race is this.* To render it more impressive, his death soon followed.] T. R. B.

57. *Lucifer Matches. Phosphorus.*—By a decree of the local government of Erfurt, no persons are in future to be engaged in lucifer match manufactories who have imperfect or partially decayed teeth. It has been found that the phosphorus used in the manufacture acts on the decayed surface, and spreads to the bones of the jaw, which are in bad cases consumed. This disease is called the "kneckenfrass." All the workmen who have defects in the teeth are to be dismissed.—*Atlas* (London newspaper), Nov. 13, 1852.

ADDENDA TO MATERIA MEDICA AND PHARMACY.

58. *Anæsthetic Properties of the Lycoperdon Proteus—Common Puff-Ball.*—The number of the *Med. Times and Gazette*, for June 11, just received, contains an abstract of a paper read before the Medical Society of London, on the anæsthetic properties of the Lycoperdon proteus. The author's attention had been directed to the fact, that the smoke of the common puff-ball was used in the country for stupefying bees, and the idea struck him, that it would be worth while to ascertain if the same agent would produce narcotism in higher classes of animals. Several weeks since, he commenced a series of experiments with the fumes of the fungus, and had continued them to the present time. He found it possible to produce the most perfect anæsthesia with the fumes. His experiments had been made on dogs, cats, and rabbits, and had been witnessed by Drs. Wills, Crisp, Cormack, Snow, and several others. He had administered the narcotic fumes in the impure state, and in a clarified state obtained by passing them through a solution of caustic potass. When an animal was exposed to a large quantity of the narcotic vapour, the narcotism came on very speedily, and the insensibility was most decided, but recovery soon took place. Dr. Willis and Mr. Richardson had removed a large tumour from the abdomen of a dog that had been placed under the influence of the narcotic. No sign of pain was shown during the operation, and the animal did well afterwards. The fumes were obtained by burning the fungus. When a moderate quantity was inhaled slowly, the narcotism came on and passed off slowly, the animal exhibiting all the symptoms of intoxication, with convulsions, and sometimes vomiting. Several animals had been intentionally destroyed by the narcotic. It destroyed life slowly; a dog would often inhale the fumes for twenty minutes or half an hour, after being completely narcotized, previous to expiring. The heart's beat in all cases survived the respirations. The lungs after death were pale; there was no sign of congestion in any organ; the blood retained its red colour, but did not coagulate quickly; cadaveric rigidity set in in two or three hours. During recovery from a protracted narcotism, an animal would sometimes be quite conscious, but insensible to pain. Mr. Richardson had himself inhaled the clarified fumes of the fungus; they produced in him symptoms of intoxication and drowsiness, but he did not breathe them long enough to become completely narcotized. Mr. Richardson was able to afford but little information as to the nature of the narcotic agent contained in the fumes. Many of the fungi possessed narcotic properties, and had been supposed to possess an alkaloid resembling morphia; but the subject had never been thoroughly investigated. He should only say, concerning the narcotic principle contained in the puff-ball—1st. That it was of a most volatile nature; 2dly. That it was not absorbed by alcohol, water, or strong alkaline solution; 3dly. That if the fungus was burned in oxygen gas, the narcotic principles still remained in the fumes, and produced its effect, if free oxygen was breathed with it. The fungus had been given internally to two animals without effect. In Italy, it was fried and eaten as food. In conclusion, Mr. Richardson said, that he had been anxious only to show that a volatile narcotic principle, capable of causing anæsthesia by inhalation, did exist in one of the fungi; it remained to be seen whether other fungi possessed a similar principle, and whether from a fungus an anæsthetic could be obtained that might be used in practice, with as little trouble to the operator and with less danger to the patient than ether or chloroform.

Dr. Snow corroborated Mr. Richardson's observations, having witnessed several of his experiments. There could be no doubt that the fungus did possess a very volatile narcotic principle, capable of causing insensibility to pain. As yet, however, the narcotic was not so practicable as chloroform. The subject deserved and required farther research.

AMERICAN INTELLIGENCE.

ORIGINAL COMMUNICATIONS.

A Remarkable Case of Malposition and Deficiency of the Thoracic and Abdominal Viscera in a Fœtus. By W. H. Byford, M.D., of Evansville, Indiana.

Mrs. M—— was delivered, April 28, 1853, of her seventh child, which to all appearance was healthy and well formed. The movements of the limbs were vigorous and active, and continued for several minutes. Immediately after expulsion, it made two or three efforts to breathe in quick succession, and in doing so uttered a very feeble cry, which was not repeated. It then ceased all efforts of this kind for a minute, or more, when the attempt was renewed, but amounted merely to gaping, the mouth being opened and the tongue protruded. These motions were repeated, at irregular intervals, for about ten minutes, when they also ceased. In pressing upon the ribs, for the purpose of assisting the respiratory movements, I perceived the pulsation of the heart between the sixth and seventh ribs, on the right side, where very forcible impulse, exceeding that of a child two years old, convinced me that the heart was situated. When my attention was first drawn to the heart, the number of its pulsations were about natural. They soon, however, became less frequent, and at the same time more forcible for about half an hour, when they did not number more than about twenty in a minute. From this time, the pulsations gradually lost power, and grew more frequent until, just forty-five minutes from the time of its expulsion, they were no longer perceptible. The radial artery continued to vibrate for half an hour. After the struggles of the first few moments, all motions ceased, no convulsions or other irregular muscular movements occurred. But the muscles, by the time the heart ceased to beat, had become remarkably rigid, so as to resemble very closely rigor mortis. This rigidity yielded very readily to passive motion; but the limbs retained any given position, continuing raised, bent, or otherwise, as they were placed, refusing to yield to the influence of gravity, as is usual after the rigidity of death has been interrupted by forced movements. A deep purple colour, without turgidity, commenced at the extremities, and gradually overspread the whole surface, removable by pressure for several hours after death; and hence the body presented a spotted appearance of white and blue.

Examination, sixteen hours after death, conducted by Dr. John J. Walker, in presence of Drs. Finch and Parks. The whole external surface was of a dark purple colour, except upon parts subject to pressure, which were white; weight about seven pounds, length nineteen inches, proportions good, and not remarkable in any respect. Upon opening the thorax, it was found that the diaphragm was deficient throughout one-half of its usual extent, the left side leaving the thoracic and abdominal cavities continuous from the clavicle to the pelvis, on the left side of the body. The mediastinum occupied its normal position, and inclosed the right half of the chest. Within this cavity were contained both lungs, the heart, stomach, and spleen. The right lung occupied its usual position and relations, except that it was flattened back upon the posterior part of the chest. The three lobes were distinctly marked, and it seemed altogether well formed. The left lung was situated anterior to the right, its large bronchia overlaying the right. It had the appearance of having been slightly dilated by air, while the other was not the least inflated. At its lower end, the heart, surrounded by the pericardium, was situated, the latter, to all appearance, bearing its ordinary relations to the former. The heart extended diagonally across the chest, its apex being upon the right side of the sternum opposite the sixth rib, its base directed toward the right shoulder. The left ventricle was upon its posterior superior aspect, the right below and before. This organ was distended with dark fluid blood. The aorta pursued a course toward the right scapula to near the first rib, where it suddenly curved across to the left side of the vertebral column, down which it continued its course. The stomach rested *upon* the diaphragm, in the right side of the thorax, its large extremity in contact with the middle of the right ribs, its smaller extending to the mediastinum behind the heart. At this point, the diaphragm was perforated by the duodenum, which passed behind the liver until it gained the inferior surface of this organ, whence it curved to the left and ascended into the costal cavity, on the left side (for it could not be called the thorax), to join the jejunum, which was about all contained above the place that ought to have been occupied by the left half of the diaphragm. From the jejunum, the illium passed downward, from left to right, to the illiac fossa to the commencement of the colon. This last organ on the left ascended to the clavicle. To the large extremity of the stomach was attached the spleen, which was remarkably thin and fragile, and deeply coloured with the dark purple hue which pervaded the surface. The liver was very large, its right lobe occupying its usual position in the right hypochondrium, while the left, long and large, formed an acute angle to it around the point of junction of the half diaphragm and mediastinum, and extended upward to the clavicle on the left side, in contact in front with the sternum and ribs posterior, and to the left of this were a part of the intestines.

Case of Pelvic Abscess, after Delivery. By HATTERSLY P. WORTHINGTON, Laurel Factory, Md.

Mrs. J——, attacked with labour-pains, with her fifth conception, attended with pretty free hemorrhage, on March 1, 1853, in the evening. The pains and hemorrhage, with some trifling intermission, continued until the evening of the 3d, when she was delivered of twins, which survived but a few hours. Had no medical attendant during her labour. On the morning of the 5th, she arose and attempted to dress herself, but was compelled to return to her bed; suffering severe pain in the left iliac region.

On the afternoon of the 6th, I was called to see her. Complained of severe pain in the left iliac region, with inability of motion in the corresponding leg; any motion of right leg, or of the lower part of the body, aggravating the pain. Considerable tympanitis, with tenderness upon pressure of the region indicated; lochia, slightly diminished in quantity; of healthy appearance; tongue furred, with trifling increase of redness of edges and tip; moderate thirst; bowels not evacuated since delivery; pulse 126, and small; restless and sleepless. Gave cathartic dose of calomel, with camphor, followed in six hours by castor-oil; calomel and camphor, each gr. ij every four hours. Rubbed the lower part of the abdomen with ol. terebinth., and applied emollient cataplasms.

7th, 10 A. M.—Easier; two rather copious stools during the night; tympanitis much diminished; thirst less urgent; pulse 110, and small. Continue the calomel and camphor every six hours, and the poultices and turpentine; Dover's powder, 10 grs. at night.

8th, half-past 10 A. M.—Slept a few hours last night; tympanitis entirely disappeared; no unusual thirst; pulse 106; could move both legs, though with increase of pain; pain in the bladder, upon micturition. Continue poultices and turpentine; give calomel, grs. 2, Dover's powder, grs. 5, every six hours; diluent drinks.

10th, quarter past 9 A. M.—Pain in the iliac region scarcely felt, except upon motion; there is a sense of distension "feeling, as if the (pelvic) bones were loosened;" sleeps badly; sleep attended with *perspiration;* lochia suppressed; milk secreted scantily for the first time last night; pulse 108, small; tongue clean and moist; desires food. Rub the lower abdomen with ol. terebinthina; give chicken broth freely; Dover's powder, 10 grs. at night.

12th, 11 A. M.—In the night of the 10th, with a sudden stool, discharged a quantity of pus, which has continued to flow in small quantity since. Sense of soreness and fulness much relieved; no pelvic pain, except upon extension of the left thigh; pressure above the pelvis does not produce pain; sweats much diminished; tongue clean and moist, and appetite increased; pulse 108; lochia suppressed; milk increased. Gave opium, gr. ½, pulv. antimon. grs. 5, every six hours; infusion of prunus virginiana, 2 fl. oz. every six hours. Chicken broth and soft-boiled eggs.

14th.—The discharge of pus continues; still some pain upon extension of thigh; sleeps little; skin cool; tongue clean; appetite good; bowels evacuated once daily; pulse 112, and feeble. Take more generous diet, with porter, and continue the infus. prur. virgin. Dover's powder at night.

16th.—Quantity of pus much lessened; pain greatly diminished; had slept well the two preceding nights; pulse 106. Take ferri et soda chlorid. 5 grs. every six hours; continue a generous diet, with porter.

22d.—By this time, all unpleasant symptoms except debility had disappeared, and under the use of tonics and a nutritious diet the patient has been restored to her usual health.

I have had, within the past year, a case of severe pelvic abscess in a male subject under treatment, and, as it possesses much interest, I shall prepare a report of it for future publication.

Inability to swallow in an Infant. By J. L. Peirce, M. D., of Bucks Co. Pa.—On the 18th of December, 1839, I was called to Mrs. James, living nearly opposite the Preston Retreat, who was in labour with her eighth child.

At 11 o'clock A. M. she was delivered of a fine large infant weighing ten pounds. I discovered at birth a tumour on the right epigastrium, extending about a quarter of an inch to the left side of the ensiform cartilage, and its upper edge just below the cartilage of the ribs. It was about one and a half inches in diameter and nearly circular. No other extraordinary appearance was noticed. On visiting the patient the next morning, she informed me that the child had not taken the breast, and on the succeeding morning the same observation was repeated, with the addition that he did not swallow. I then examined the tumour, and found its appearance nearly as at first, and felt confident that it was not connected with the internal organs, but was of the nature of a wen. I noticed a constant moaning of the child, which the mother informed me had succeeded to an incessant crying. There was a constant frothing at the mouth, which I regarded as the saliva which the child ought to have swallowed. With a teaspoon I made several attempts to cause him to swallow some water, but in vain.

On the afternoon of the third day Professor Hodge very kindly met me in consultation. He regarded the inability to swallow as connected with the nervous system; founding his opinion chiefly upon a fulness of the brain at the anterior fontanelle. We concluded to direct nutritive injections to be made use of several times a day, and see what nature would do towards removing the difficulty. In accordance with this view I requested the nurse to make use of a couple of injections of warm water to cleanse out the bowels, and afterwards lamb broth to be used every three or four hours. On the succeeding day, I was informed that after using the second warm-water injection they applied the child to the breast, when they were surprised to find that the child was able to swallow. It took the breast freely. No further inconvenience was afterwards experienced.

DOMESTIC SUMMARY.

Influence of Parasites in the Production of Disease.—[JOSEPH LEIDY, M. D., Professor of Anatomy in the University of Pennsylvania, in an interesting memoir (*A Flora and Fauna within Living Animals*), published in the *Smithsonian Contributions to Knowledge*, makes the following interesting remarks on this subject]:—

In many animals entozoa and entophyta are almost never absent, and probably when in their natural habitation, and few in number, or not of excessive size, are harmless, as observed by Dujardin in the introduction of his excellent work on Intestinal Worms: "Les helminthes se développent dans un site qui leur convient, sans nuire plus que les lichens sur l'écorce d'un arbre vigoureux. Ils ne peuvent devenir nuisibles, généralement, que par suite d'une multiplication excessive, laquelle semble alors être une des conséquences d'un affaiblissement provenant d'une tout autre cause, d'une mauvaise alimentation, du séjour dans un lieu froid et humide, etc.: sans cela, les helminthes naissent et meurent dans le corps de leurs hôtes, et peuvent paraître et disparaître alternativement sans inconvénients."

Many important diseases have been supposed to originate from parasitic animals and vegetables. The former are not the true entozoa, for these are too large, and may be detected by the naked eye, but they are considered to be animalculæ so small that they cannot be discovered even with the highest powers of the microscope. But, independent of the fact that the existence of such entities is a mere suspicion, none of the well-known animalculæ are poisonous. At various times, I have purposely swallowed large draughts of water containing myriads of *Monas*, *Vibrio*, *Euglenia*, *Volvox*, *Leucophrys*, *Paramecium*, *Vorticelli*, etc., without ever having perceived any subsequent effect.

The production of certain diseases, however, through the agency of entophyta, is no longer a subject of doubt; as in the case of Muscardine in the Silk-worm, the Mycoderm of Porrigo favosa in Man, etc.; but that malarial and epidemic fevers have their origin in cryptogamic vegetables or spores requires yet a single proof.[1] If such were the case, these minute vegetables and spores, conveyed through the air, and introduced into the body in respiration, could be detected. The minutest of all known living beings is the *Vibrio lineola* of Müller, measuring only the 36,000 of an inch, and the smallest known vegetable spore is very much larger than this, whilst particles of inorganic matter can be distinguished the 200,000 of an inch in size.

I have frequently examined the rains and dews of localities in which intermittents were epidemic upon the Schuylkill and Susquehanna Rivers, but without being able to detect animalculæ, spores, or even any solid particles whatever. I have examined the air itself for such bodies, by passing a current through clear water. This was done by means of a bottle, with two tubes passing through a cork stopper; one tube dipping into the water, the other reaching not quite to its surface. By sucking upon the latter tube, a current of air passed through the former, and was deprived in its course of any solid particles. Ordinarily, when the atmosphere was still, early in the morning, or in the evening, neither spores nor animalcules could be detected. When piles of decaying sticks or dry leaves were stirred up, or the dust was blown about by the wind, a host of most incongruous objects could be obtained from the air; none, however, which could be supposed capable of producing disease.

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[1] See an ingenious little work by my distinguished friend Dr. J. K. Mitchell, "On the Cryptogamous Origin of Malarious and Epidemic Fevers."

To assert, under these circumstances, that there are spores and animalculæ capable of giving rise to epidemics, but not discernible by any means at our command, is absurd; as it is only saying in other words that such spores and animalculæ are liquid and dissolved in the air, or in a condition of chemical solution. That the air may be poisoned by matters incapable of detection by the chemist, is proved by the emanations from such plants as the *Rhus vernix*, *Hippomane mancinella*, etc.

Microscopical Constituents of Black Vomit.—Three competent observers, Dr. A. Clark,[1] of New York, Dr. Middleton Michel,[2] of Charleston, and Dr. A. H. Hassall,[3] of London, have lately examined the microscopical characters of black vomit. Their observations coincide in important points, and as they are valuable in a pathological point of view, we shall give a full account of them.

Dr. A Clark examined a portion of black vomit, removed from the stomach of two persons who had died of yellow fever at the New York Hospital last winter, and the following is his account of the result of his examination:—

"The first of these specimens was not highly coloured. After standing for a few hours, it deposited a brown sediment, leaving the supernatant liquid a little milky, but nearly transparent. This fluid was acid, and appeared to derive its opaline hue from minute granules of organic matter—probably debris of the epithelial lining of the stomach—and minute particles of ingesta, and a few very minute oil-globules. The sedimentary matter, examined with a magnifying power of 400 diameters, was found to consist mostly of the epithelial lining of the stomach and its crypts (some cells of which were granular and breaking up, some in a normal state; some were separated, floating free; others were united in sheets of limited extent), and of a fine granular matter, which was probably the disintegration of epithelial cells. Besides this, there was a small amount of two kinds of colouring material, the one of a dark yellowish-brown, the other of nearly a jet black colour. These will be described hereafter. This specimen contained no fungoid growths, no animalculæ, and nothing that could be referred to the ingesta, except a few starch corpuscles, and a few globules of fat or oily matter. The fluid of this specimen was decidedly acid, and contained the merest trace of albumen.

"The second specimen was mostly sedimentary matter when it was brought to me. The colour of it was a dark brown, almost black. The small quantity of supernatant fluid was even more acid than the first, and was slightly albuminous. The sediment, examined in the same manner as the first, was found to contain, like the other, the epithelium of the stomach and its crypts, in three different forms: the conoidal cells of the lining membrane; a few cells from the larger sections of the crypts, of large size (that is $\frac{1}{1500}$ to $\frac{1}{1000}$ of an inch in diameter); and flat cells of smaller size (from $\frac{1}{2}$ to $\frac{1}{4}$ the former) from the diseased and minute divisions of the crypts. These bodies were seen sometimes in sheets of moderate extent, sometimes as individual cells. Many of them were granular, and a few of the larger flat cells contained oil-globules. The fine granular matter, so abundant in the first specimen, was seen also in this, but in smaller quantity, and probably should be referred to the same source, the disintegration of some of the cells.

"The substances that did not belong to the stomach tissue were the following:—

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[1] New York Medical Times, May, 1853.

[2] Charleston Medical Journal, May, 1853.

[3] Lancet, February, 1853.

"1st. What I am compelled to regard as blood-corpuscles. These were of a uniform dark yellowish-brown colour, and existed in great abundance, constituting from one-sixth to one-quarter of the mass. Their forms varied from the disk-shape to the globular. Some were isolated, but more were grouped. Some were no more than a third the size of the largest. Some were in the process of disintegration, and formed nebular spots of considerable size, mostly granular; yet in the midst of the granules were small globular and large disk-shaped bodies. But all had the same dark-brown colour, and it was easy to trace a regular gradation from the unquestionable disk-shaped blood-corpuscle, through the larger and smaller globular bodies, to the granular matter.

"2d. Numerous scales of opaque black matter, having no uniform shape, and susceptible of fracture in any direction. Regarding the nature of this substance, I am not prepared to express an opinion; but I can hardly doubt that it is the product of some chemical change in the colouring element of the blood. It was abundant in both these specimens, in the second constituting at least one-twelfth of the whole bulk of the sediment.

"This pigment matter is often met with in other pathological states of the system. It abounds in the "bronze liver" of remittent fever. It is occasionally seen in the urine; and it is frequently easy to trace gradations in its colour, from the dark brown of the corpuscles above described, to the jet black which usually distinguishes it. I am not aware that it has received a name, unless it should be considered a modification of *melanine* or *melanose.*

"To these two constituents must be ascribed the peculiar colour in both these specimens. And I cannot doubt that they are alike the result of sanguineous effusion from the lining membrane of the stomach.

"3d. There was a large quantity of a peculiar crystalline matter, sometimes in the form of a brush, but oftener flattened, as if spread by the weight of the glass cover, white in colour and nearly transparent. This, I suppose, is the product of digestion. It was found in both the specimens, and has been often seen in the materials removed from the stomachs of persons dying of other diseases.

"4th. A vegetable growth in linear and rather stout joints, the sections commonly separated, but often united, as by a hinge. This element was in great abundance in the second specimen, but was not seen in the first. It disappeared, however, entirely, after the lapse of three weeks, leaving only the substances described above."

Dr. Middleton Michel has had numerous opportunities of examining the black vomit of yellow fever, and has elaborately investigated its microscopical characters during the prevalence of yellow fever as an epidemic in Charleston, last summer. He examined forty samples, under varied circumstances, in and out of the stomach and intestines, in the fresh and putrescent conditions, and under the influence of certain reagents.

The diversity of colour in the vomit is sufficiently striking, Dr. Michel says, to be particularly mentioned. "Though generally reddish-black, it often presented a brown, reddish, or blackish-brown, and sometimes claret colour. From a patient whom I saw with Dr. Hayne, which patient ejected large quantities and ultimately recovered, the liquid was bright red, recognizable as pure blood with black flocculi in the sediment, while one sample brought me by Dr. Pettigrew was of chocolate colour with a brownish residuum. Some obtained from my own patients resembled a strong infusion of senna, holding in suspension the ordinary black clots and granules; others, even in a state of rest, were more like a solution of bismuth and Indian-ink; some again were perfectly black, and these were such as I procured from the stomach most generally. The intensity of colour is much influenced by rest or motion, as it acquires a denser shade whenever the fluid is agitated, and the granules, flocculi, and coagula are made to float; on the contrary, these particles, when the liquid is at rest, settle at the bottom, being specifically heavier than the former, leaving the supernatant liquid comparatively clear, sometimes transparent as serum. This is not always the case, however, as I have seen the solid portions in the same sample equally divided into such as formed a sediment, and such as floated on the surface. The quantity which may be produced and ejected in a given time materially affects the colour, this being of a brighter red whenever the fluid is thrown up in abundance until it frequently amounts to pure blood; whereas, the dark black and granular aspect, with the coffee-grounds sediment, described as characteristic of black vomit, belongs particularly to the smaller portions which are early vomited—a circumstance which claims special attention, as it will be found to account for the difficulty experienced in producing these exact particles in the artificial trials which we made with blood and acids, as well as for the occurrence of pure blood of the scarlet hue in many instances of hematemesis. It is proper to remark that there is rarely, if ever, any greenish or yellowish tinge observable, no evidence whatsoever of the presence of bile; and I believe this is the concurrent testimony of all who have taken the trouble to repeat Dr. Warren's tests."

If bile is ever met with in black vomit, it is, according to Dr. M., merely accidental.

These differences in colour, Dr. M. has found to depend upon admixture in varied proportions of the constituent parts.

In every instance Dr. M., as did Dr. Clark, found the vomit decidedly acid, turning litmus-paper red, and this acid, Dr. M. observes, "has been detected as free muriatic, which is present in gastric juice, according to recent investigation. The acid property of the vomit is most remarkable, for I made constant inquiries of those suffering from this symptom, and they frequently complained of an acid burning sensation in the throat and pit of the stomach, referable doubtless to its presence. The elimination of this acid seems to be without restriction, for in one case basin-full after basin-full was thrown up presenting the same reaction."

Dr. M. always found the filtered liquid perfectly transparent, with the exception of such amorphous granules as sometimes swim through serum itself. Some of the most minute specks selected from the coffee-grounds sediment presented under the microscope every resemblance to coagulated blood, appearing as so many dense opaque masses tinged darkly with hematin. Here and there were congeries of granules invested with the same colouring ingredients. Small portions, rendered less opaque by dilution, were found to consist of shreds or beds of mucus containing long numerous scales, granules, and some blood-disks. Epithelial cells were always found, and Dr. M. detected all the varieties of these cells except the ciliated. "The *scaly*, *columnar*, and *spheroidal*, have at different times been plainly made out with their nuclei and nucleoli, but in very different proportions—the scaly or lamellar cells being always most numerous. Many of these latter are seen as perfect in shape as when artificially removed from the mucous surfaces of the throat, gullet, or mouth, and frequently united by an adhesive intercellular matter in the order of the hexagons of a tessellated pavement, some presenting at their centres accurately defined nuclei, which the addition of a little diluted acetic acid rendered even more apparent. These are evidently shed from the mucous lining of the œsophagus, pharynx, back part of the fauces and mouth during the act of vomiting, and are stretched along so extensive a surface as at once to account for their frequency. The abrasion which these surfaces sustain results from the acridity of the matters vomited. But if carefully examined there is no sample which will not disclose the presence of the columnar epithelium of the gastric membrane.

An inspissated viscid form of mucus constitutes, according to Dr. M., a conspicuous feature of black vomit. "Condensed into glutinous masses, as it were by the action of the acid secretions, this substance was filled with granules, and the relics of epithelia, entangled with which it in a measure owed its consistency, and but for having imbibed a certain amount of blood, exactly resembled fluor albus, as seen with the microscope. The mucous globules bear no relation in point of numbers to the masses of this albuminoid ingredient, they were few and scattered about the field; presenting as they do generally a well-defined outline and a granular surface, these were conspicuously more translucent, and their contour less distinct, though the granular appearance was sufficiently evident in most cases. They were distended by the endosmodic imbibition of the aqueous solutions in which they appear. A strong mixture of salt and water disturbed their transparency and diminished their size by corrugating them. The viscid mass is not composed of mucous globules, for where it exists in greatest abundance, in the stools, for example, these were wholly absent. When compressed into a thin layer, this mucoid mass appeared as a soft, homogeneous, granular, and filamentous structure, the shreds of which, matted together in an irregular manner, somewhat resembled fibrin, as it is seen to coagulate when microscopically inspected, or perhaps like albumen coagulated by acid.

"Blood, in a broken down and altered condition, is met with invariably in abundance; indeed, it is this which constitutes black vomit *par excellence.* Every object under the microscope is intensely coloured by it, as a large proportion of hematin appears to be in complete dissolution. It need hardly be remarked, that the blood-corpuscles are entirely separated from each other, and never seen in rolls or piles, and equally changed in their physical nature. We see no disks or but few turning edgewise while in motion. The vast majority are entirely dissolved, a granular detritus being all that remains even in the freshest condition. Some again are spheroidal, distended, or otherwise misshapen, most generally corrugated, measuring $\frac{1}{5000}$ of an inch, undergoing exactly the same modifications as we produce at will by treating them with acetic, nitric, hydrochloric acids or concentrated saline solutions."

The following are Dr. Michel's conclusions:—

"1st. That the microscope has furnished decisive proof of the nature of that black matter formed within the entire length of the digestive canal; showing that it is blood chemically altered by the action of acids wherever it is seen, whether in or out of the vessels—the acids being hydrochloric when derived from the stomach, sulphuric acid of the sulphuretted hydrogen, or carbonic and lactic acids, when obtained throughout the remaining portions of the canal.

"2d. That the pasty and figured stools are composed of the black matters which have lost all of their characteristic features but the colour, having undergone a process of digestion.

"3d. That no animalculæ are discoverable in either fresh or putrescent black vomit; but as it decomposes certain fungi are disclosed, which are most frequently, if not always, developed outside of the body, depending upon, though not the cause of, fermentation.

"4th. That the artificial black matter produced by the addition of an acid to blood, is in every respect analogous to true black vomit, being both physically, chemically, and microscopically identical."

Mr. Hassall has also examined microscopically black vomit (*Lancet*, Feb. 1853) from a person who died at Southampton of yellow fever. He saw in this matter "ramose branches of the sporules of a fungus," "large circular sporules," "branched and moniliform, threads of a fungus," and many compound cells having the appearance of *sporangia*. But he saw besides, "a vast number of irregular bodies, frequently of a brown colour, and resembling somewhat blood-disks shrivelled and discoloured, but *in*soluble in acetic acid;" also, "a multitude of molecular and amorphous masses of a brownish or blackish colour;" and he expresses his regret that he cannot determine the nature of the bodies resembling blood-corpuscles, "on which the colour to some extent depended." "It is possible," he adds, "that they are the sporules of a fungus; at all events, their insolubility in strong acetic acid is opposed to the opinion that they are altered blood-corpuscles." He is, therefore, of the opinion that the sporules may have existed in the stomach during life, and may have kept up the vomiting, as it is supposed the sporules of *sarcina ventriculi* may, under other circumstances. He therefore advises the administration of alkalies, and especially the sulphate of soda, in yellow fever.

The sporules of a fungus discovered by Mr. Hassall were probably accidental, as no such sporules were seen either by Dr. Clark or Dr. Michel. Mr. Hassall is disposed to regard "the dark-brown bodies somewhat resembling shrivelled and discoloured blood-disks as *sporules of a fungus*, because they are not soluble in acetic acid. Dr. Clark does not concur in this opinion, but regards them as nothing more or less than "shrivelled and discoloured blood-disks." They are not, he says, soluble in acetic acid, as the blood-corpuscles in their normal condition *appear* to be; but the normal condition no longer exists in these bodies. The change of colour and of form is sufficient proof of this.

"Regarding the action of acetic acid on the blood," Dr. Clark remarks: "it is true that it renders the corpuscles transparent by the destruction of the hematin, and alters the shape of these bodies. But after protracted maceration in this reagent, the outline of the corpuscles can still be recognized with a good glass, and there are even some of them that can be seen with good distinctness, diminished in size, it is true, and usually globular. I do not confound the proper blood-corpuscles with those bodies in the blood which acetic acid breaks up into sections, or "nuclei," three or four, still contained within their cell-wall. These are seen when pure fresh blood is treated with this acid, in considerable numbers; but besides these, there are other cells, small and rounded, entirely distinct in their appearance from the fat-globules which the acid develops, and equally distinct from the lymph-corpuscles which undergo the change referred to above. These bodies can be regarded as nothing else than blood-corpuscles, in a state that enables them to resist the action of acetic acid more than others. But acetic acid does not completely dissolve the blood-corpuscles. It deprives them of their colouring matter, and reduces their refractive power so nearly to that of the fluid in which they float, that a good lens and close examination are required to see them, but they do not entirely disappear. If fresh corpuscles are first macerated in dilute hydrochloric acid, and then treated with acetic acid, it will be seen that the latter fluid does not dissolve them. It renders them less distinct; but the hydrochloric acid seems to have formed with the hematin a pale yellow colour, which the acetic acid cannot wholly remove. If, under other circumstances, the latter fluid has the power of dissolving the *walls* of the corpuscles, which I doubt, the cyst, charged as it is by the action of the stomach, is now able to resist its solvent properties.

"It is well known that when blood is discharged from the stomach it is apt to have a very dark colour. When discharged from the intestines, the same fact is noticeable, so that the name *melæna* was once common for the condition which produced such evacuations. It is not probable, then, that the gastric and intestinal fluids and gases, by chemical union with the hematin of the blood, alter its nature, and so render it insoluble in acetic acid? This seems to me the most ready explanation of the fact which has probably led Mr. Hassall into error."

Condition of the Secreting Cells of the Liver in Yellow Fever.—Dr. A. Clark has examined the structure of the liver of a patient who had died of yellow fever. It had the usual yellow or *café au lait* colour. Its aspect did not differ very materially from that of the chronic fatty liver of drunkards. It was not, however, materially enlarged; and on close examination the lobules of Kiernan could still be distinguished on its surface and section, by the minute vessels which surround them.

"On microscopical examination, the only marked change demonstrated was a fatty state of *all* the secreting epithelial cells, and an abundance of free fat-globules of large and small size, covering and obscuring every thin section that was made of it. The whole tissue was thoroughly infiltrated with oily matter, and scarcely a cell could be seen that was not loaded with these globules. The condition of these cells was in all respects identical with that observed in ordinary cases of chronic fatty liver, and the examination suggested the inquiry whether the state of the liver in yellow fever should not be called *acute fatty degeneration*. Perhaps the organ in this instance may have been fatty before the attack of the fatal disease. Still, the observation is, I believe, worth recording, that those who have larger opportunities of studying the disease than I possess, may verify or correct it. I will not assume that a single case can demonstrate a general fact, but will propose the question for solution by our southern brethren: Is not the change so constantly observed in the liver of those dying of yellow fever, an *acute fatty degeneration?*"—*New York Medical Times*, May, 1853.

Pharyngeal Tumour extirpated.—Dr. L. A. Dugas records (*Southern Med. and Surg. Journ.* May, 1853) the following case of fibrous tumour in the pharynx, which he successfully extirpated:—

Branch, a negro man about 35 years of age, the property of Mr. J. A. Smith, of Henry County, Ga., was placed under my charge early in February last. He first noticed, about three years before, a small tumour behind the soft palate, which he represented as being very hard and painless. From that time, it gradually increased in size, and was never painful, but rather inconvenient. I found the tumour filling the pharynx, extending upwards to the posterior nares, downwards as far as the larynx, and laterally from one tonsil to the other, forcing down the right one. The soft palate was carried forwards and downwards, so as to constitute a prominence the size of a large egg, to the posterior surface of which the tumour was attached. Deglutition was so difficult that he could take no solid food, his articulation was very indistinct, and respiration considerably impeded when he would walk briskly, causing him then to breathe loudly, and like a horse affected with the "bellows."

Believing the tumour to be fibrous, I proceeded, on the 10th of February, to its removal, as follows:—

Provided with actual cauteries, a syringe, sulphate of zinc, &c., to control the hemorrhage from the general surface and smaller vessels, I passed a ligature beneath the right carotid artery, and left it there, ready to be tied, should this become necessary. The patient was then seated in a chair, and an incision made from the right angle of the mouth to the masseter muscle, which necessitated the ligature of the facial artery. In the third stage of the operation, a longitudinal incision was made from the side of the uvula to the roof of the mouth, through the soft palate, which was then detached from the tumour in the form of flaps. The tumour now presented a white glistening aspect, and was adherent, posteriorly and laterally, to the adjacent parts by strong cellular tissue. Having free access to the parts, the cutting instruments were laid aside, and the mass was seized with strong tumour-forceps and drawn forwards, whilst my fingers were passed behind and tore asunder the attachments of the lower portion of the tumour. The fingers were then carried successively behind the left, the upper, and a part of the right portions of the mass, which was now removed. The entire mass thus extirpated constituted one distinct tumour; but there was still another left in the right side, apparently in intimate connection with and pressing down the tonsil with great force. It did not, like the former, present a white glistening surface to the eye, but was covered by a thin stratum of muscular fibres, derived from the pharyngeal muscles. Upon dividing this stratum with the knife, and pressing it aside, the tumour was found to be of the same character as the former, and it was likewise removed by the fingers and forceps, not, however, without much difficulty. It was found to be attached to the ramus of the lower jaw, near the sigmoid notch, to the pterygoid process of the sphenoid bone, and to the posterior aperture of the right nostril, and was brought away in separate fragments. Both tumours, when placed together, formed a mass about the size of a turkey's egg.

The patient bore this protracted and painful operation with wonderful fortitude. The amount of hemorrhage was smaller than could have been anticipated, but had to be checked occasionally by cold water thrown into the pharynx with a syringe. After allowing the patient to rest a little, the cheek was stitched and well brought together with adhesive strips. He was then put to bed with the wound of the neck partially closed, and the ligature was permitted to remain beneath the carotid until the following morning, as a precautionary measure.

The patient's recovery was unattended with any circumstance worthy of note. He did remarkably well, and would have been sent home in about a fortnight, had he not taken cold, which affected his bowels and induced considerable fever for eight or ten days more.

Will this disease return? Microscopic examination by Dr. Harriss showed the tumours to be purely fibrous—nothing indicative of malignancy could be detected in it. Time alone will decide the question.

Amputation at the Shoulder-Joint.—Prof. E. R. Peaslee reports (*New York Journal of Medicine*, May, 1853), the case of a man, sixty-six years of age, in good health, who accidentally shot himself with a musket on the 11th of March, 1845. The charge (shot) entered on the inside of the right arm, just above the insertion of the deltoid, and passed obliquely backwards, upwards, and outwards, and emerged directly below the acromion process, shattering in its course about two inches in length of the os humeri. Above the shivered portion of the humerus, the head and about three-fourths of an inch of the shaft remained in place. The anterior, circumflex, and brachial arteries had been divided. When Dr. Peaslee saw the patient, three-quarters of an hour after the accident, he was in a state of collapse, about twenty ounces of blood had been lost, and the hemorrhage continued. The patient was more than half a mile from home, where it was necessary to convey him over a rough road. Soon after reaching home reaction commenced, and Dr. Peaslee amputated the arm at the shoulder-joint, with the assistance of Drs. Lincoln, Ellis, and J. B. Upham. Everything went on well until the ninth day after the operation, when the upper flap was attacked with erysipelas, which, subsequently, extended over the whole body *except the wound itself*. During the continuance of the erysipelas (ten days) the patient was supported on sulphate of quinia and beef broth, and common wheaten flour was applied over the inflamed surface alternately with a lotion containing a large portion of laudanum. After the disappearance of the erysipelas, the case again went on favourably, and fifty-four days after the operation he was able to walk out. The wound soon afterwards closed, and the patient remained in his usual health until the summer of 1851, when he died.

Removal of an Ovarian Tumour. Death.—Dr. G. M. Bayless, of Hazlewood, Mo., in a letter to Prof. Pope (*St. Louis. Med. and Surg. Journ.* May, 1853), relates a case of ovarian tumour, which he removed on the 15th of January last. The subject of the case was 20 years of age, delicate form, fair complexion, married, the mother of two children, the older seven, the younger five years of age. About four years ago, she began to enlarge, and was regarded as pregnant. When seen by Dr. B. in August last, her abdomen was very large. Dr. B. tapped her, as *a means of diagnosis*. Some four or five gallons of fluid were drawn off.

The general health of the patient at this time was tolerably good, and the tapping relieved the only difficulty; slight embarrassment of respiration; no inflammatory symptoms followed the tapping; but in six or seven weeks the fluid had reaccumulated. This was the only time she was tapped.[1]

"Early in November, she took a severe cold, which prevented my operating at that time. By the middle of January, she had recovered from the cold, and her general health was pretty good. I considered the case a very favourable one for the operation. 1st. Because of the *spare, delicate* person, as less liable to have inflammation. 2d. The patient had been tapped but once, and the operator would probably not have extensive adhesions to encounter. The result proved the correctness of this latter expectation, and probably also of the former.

"The *operation* was commenced by tapping, for the purpose of reducing the size of the tumour. *Three gallons* of straw-coloured serum were drawn off. The patient suffered no exhaustion from this, and was at once placed on the table. She was put under the influence of chloroform, which acted well. The incision was carried from just below the umbilicus to within two inches of the pubis, and was six inches long. The tumour, upon which the abdominal walls retracted immediately after the tapping, presented itself at the opening, but so large as to require farther reduction in size before it could be brought through my opening, which I did not wish to enlarge. This reduction was effected by plunging the scalpel into several of the cysts and evacuating their contents. A gallon or more of fluid was in this way discharged. The tumour was now squeezed through the opening, and but two adhesions were found; *one*, a band of false membrane extended from the side of the fold of peritoneum that holds the sigmoid flexure in its place to the side of the tumour near its top, adhering only by a surface as large as the end of the finger. The band was about five inches long, one and a half wide at base, and a half inch at tip. The tumour had evidently contracted an adhesion to this reflexion of peritoneum in its ascent from the pelvis, and stretched the false membrane in its farther ascent into the abdomen. This false membrane was colourless (devoid of red vessels), analogous to cellular tissue, as is always the case in those of ancient formation. I have thus minutely described this structure, because it is one of only *three* that were cut within the cavity, and the only cut surface within it that was not tied. It was clipped loose from the tumour, and after examination, to see that no blood was escaping from it, it was suffered to pass back into the cavity.

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[1] Repeated tappings tend greatly to embarrass the operation of extirpation, by causing adhesion of the tumours to the walls and organs. This is my experience in the former cases. My successful case was tapped seventeen times.

"The *other* adhesion to the tumour was the fimbriated extremity of the left fallopian tube, which was spread out on the side of the tumour, much after its fashion when embracing a Graffian vesicle. The whole extremity of the tube was quite red, and when dissected from the tumour exhibited an extensive irregular surface, from which blood *oozed* freely. I put a strong ligature around the tube itself, one and a half inches from the uterus, and cut it off. No farther escape of blood took place. The *pedicle* of the tumour was now its only remaining attachment; this was something over an inch wide; I put a strong silk cord around it, and tied it very firmly. The pedicle was separated and the tumour removed. Not a drop of blood escaped from the pedicle, and I don't think that more than three ounces were lost during the operation. After I had satisfied myself that there were no *bleeding vessels* anywhere, I asked Dr. Wood, of Liberty (formerly of St. Louis), and another old physician, to examine if there was any. They did so, and reported none. (I was thus particular, because the case looked so favourably that I wanted to make it absolutely certain of a successful result). The incision was now closed by a number of twisted sutures, and adhesive strips compressed, and a parturient bandage. The pulse continued good during the operation, which lasted eighteen minutes, according to a bystander; and the effects of the chloroform being allowed to subside, the patient waked up and expressed herself as feeling comfortable. She had suffered no pain, and would not believe that the operation had been performed. In half an hour she was removed to bed, and said she felt no inconvenience except soreness. The operation was completed at half-past 12 P.M. In an hour and a half after the operation, she had *slight* rigors that lasted a few minutes. Reaction came on, but it was moderate; pulse about 100, but soft and compressible. There was no pain, no heat of skin, but there was excessive thirst. Cold water and ice were allowed; but as soon as any accumulation took place in the stomach it was thrown up. The *thirst* was the only unpleasant condition of the patient, and towards night this abated somewhat. I stayed with her until bedtime, when the thirst had lessened, and she was otherwise doing well. I ordered morphia, and left her in charge of the family physician and another intelligent young physician; the latter of whom, a relative of the patient, stayed in the house.

"At half-past two, a messenger brought me word that the patient had not slept; in other respects as I had left her. I directed the morphia to be repeated, to produce sleep. One portion had the effect; and at half-past three, the young doctor, who stayed with her, went to bed, leaving her asleep; pulse good, and, as he thought, in better condition than at any time since the operation.

"At six o'clock, the family physician (who was up with an obstetrical case) saw her, and found her sleeping so quietly that he made no examination of the pulse, for fear of disturbing her. At daylight, I went to see her, and found her pulseless, or nearly so, and with hurried, difficult respiration, and great distress. She was manifestly sinking very rapidly. What was the cause? This question was necessary to any treatment. It surely was not the shock of the operation, for that was slight, and had long since passed off. There had been no symptoms of inflammation, and it was much too soon for it to have completed its work. *Hemorrhage* was the only remaining possible cause. It would not do to open the wound to see if my ligatures had slipped, without first bringing the pulse up by stimulants. They were freely used, but produced no effect, and at 9 o'clock (twenty and a half hours after the operation) she died.

"On examination, I found about two quarts of blood in the abdomen—revealing the cause of her death. *But my ligatures were in place,* and not a drop of blood could have escaped by them.

"What was the source of this hemorrhage? It could not have taken place within the cavity; for the only structures cut, were the pedicle, the Fallopian tube, and the band of false membrane. The ligatures were found firmly applied to the two former, and the latter was a bloodless structure, which could not possibly have furnished it. The only other possible source was the edges of the incision through the abdominal walls. Besides this conclusion, which we arrive at by the method of exclusion, the conditions of the lips of the wound, at the *post mortem, positively* indicated it. *They were very loose and flabby.* If the mouths of the vessels had been plugged up, the edges would have been turgid and firm. This was surely a most extraordinary result. The abdominal walls were attenuated from long-continued distension, and the cut surface was small. I should remark that my incision deviated about half an inch to the left of the median line, and took off a narrow strip of the left rectus muscle, leaving it attached to the right border of the incision. But neither here nor in the whole length of the incision was there a vessel cut large enough to cause even the smallest arterial jet, none that any surgeon would think of tying, in any operation."

Antiperiodic Properties of Humulus Lupulus.—Dr. W. Y. Godberry, of Benton, Miss., states (*West. Journ. Med. and Surg.* March, 1853) that the antiperiodic powers of humulus lupulus is equal to that of any other article of the Materia Medica except quinia, and he has often found it to succeed in arresting intermittents after quinia had failed. When administered alone, he considers the infusion the best form, which should be double the officinal strength. One ounce infused in a pint of boiling water should be taken during the interval. When "the secretions are properly regulated, and there exists no enlargement of the spleen, it will rarely fail to effect a cure of tertian or quartan ague." Dr. G. used the tincture alone successfully in three cases. The following combination he recommends as a safe and efficient substitute for quinia: ℞. tinct. hum. lup.; cort. Peruv. āā ℥iv. pulv. peper. nig. ℥ss ɱ. To be given in doses of half an ounce every two hours, during the interval.

Chloroform in Puerperal Convulsions.—Dr. Van Buren reported to the New York Medical and Surgical Society a case of puerperal convulsions, occurring in a lady, twenty-five years of age, with her first child. During gestation, she had enjoyed her ordinary health, except on the evening preceding the attack, when she had retired with a headache. Her physician was sent for at half past one o'clock A. M., and found her in a convulsion. Labour had not commenced. An hour later Dr. Van B. was called, and found her in her third convulsion. On examination per vaginam, it was ascertained that the os uteri was beginning to dilate. Chloroform was immediately given, and after a time the convulsions were relieved, when it was "let up," and the convulsions again returned. Its use was again resumed, and she was kept under its influence until about six o'clock A. M., at which time the os was found to be sufficiently dilated to admit of interference. The forceps was applied, and the delivery speedily completed. The patient was then left in a comfortable condition. Another convulsion, however, came on shortly afterwards, and they recurred every twenty minutes, except when chloroform was given, which controlled them. Other appropriate remedies were resorted to, but the anæsthetic was mainly relied upon. Its use was continued until a few hours before death, which occurred fifty-two hours after the first seizure. During all this time there was no secretion of urine. The child is alive and doing well.

Dr. Metcalf asked if the coming on of headache with the commencement of labour, where the patient had up to that time enjoyed good health, was not of grave import? He then mentioned a case in which convulsions followed this symptom.

Dr. Delafield replied that he should be alarmed, and adopt precautionary measures; and alluded to a case of this kind which had fallen under his observation during the past week. In this connection, he inquired of the Society, the result of their experience in the use of chloroform in puerperal convulsions.

Dr. Metcalf replied, that in a half dozen cases, occurring in his own practice, and another half dozen in the practice of his friends, when chloroform had been relied upon, but one case had terminated fatally.

Dr. McCready has seen one case in which it was administered freely, but did not control the convulsions. This case, however, terminated favourably.

Dr. Delafield narrated a case in which it was given without at all controlling the disease, and the result was fatal. He doubts the advantage of chloroform in this disease; thinks that, under proper treatment, the great majority of cases of puerperal convulsions will terminate favourably. He recommends one free bleeding from the arm at the commencement of the attack, followed by cupping and strong counter-irritation about the head itself. In the only case which terminated fatally in his practice last year, chloroform was used.

Dr. Metcalf thinks that the tendency to a recurrence of the convulsions is owing to excessive nervous excitability; and as chloroform will undoubtedly allay this condition, he thinks its use highly beneficial. He then mentioned a case of his own, in which the patient had but one convulsion, which terminated fatally. A *post-mortem* examination revealed a clot in the brain. This he considers rare.

Dr. Delafield, in reply to questions put by several members, stated that he does not consider opium as a safe remedy in this disease. A very large proportion of cases occur after the labour is completed; and they very seldom occur before the labour has fairly commenced. Convulsions, however, sometimes do occur, from time to time, during gestation, and yet the labour goes on perfectly well.

Dr. Markoe inquired what influence the progress of labour produces upon the convulsions. Also as to the propriety of hastening the labour in such cases.

Dr. Delafield replied that he would never interfere when there would be any serious difficulty in doing so—where there would be much shock; but would wait until the os uteri was well dilated. He also remarked that children are not often born living after convulsions have existed for any length of time. Where convulsions occur and subside before delivery, the child is always dead. —*New York Medical Times*, April, 1853.